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TRANSACTIONS

OF THE

CONNECTICUT

State Agricultural Society,

FOR THE

YEAR 1859,

WITH

REPORT OF THE ANNUAL MEETING,

FOR 1860.

PUBLISHED BY ORDER OF THE EXECUTIVE COMMITTEE.

HENRY A. DYER, COR. SEC.

(OFFICE OF THE SOCIETY, POST OFFICE BUILDING, HARTFORD.)

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INDEX.

Conn. State Agricultural Society, Officers, - - - - - 7–8
Act of Incorporation, - - 9
Constitution, - - - 10
Report of Executive Committee, 11–22
" Treasurer, - - 23–24
Annual Meeting, - - 25–30
Report of Prof. S. W. Johnson, Chemist to the Society, - 31–67
(*Specific Index to Chemists Report.*)
EXAMINATION OF COMMERCIAL FERTILIZERS.
American Guano, - - - - - - - - - 32
Phœnix " - - - - - - - - - 35
Fish " - - - - - - - - - 35
Sombrero " - - - - - - - - - 36
Rhode's Superphosphate of Lime, - - - - 40
Coe's " " - - - - - 40
Mapes' " " - - - - 41
The Progression of Primaries, - - - - - 44
Home-made Superphosphate of Lime, - - - 48
Directions for Making, - - - - - - - 51
Uses of, - - - - - - - - - - - 52
How applied, - - - - - - - - - 53
Superphosphate *vs.* Bone Phosphate, - - - - 53
Bone Dust, - - - - - - - - - - 54
Fermented Bones, - - - - - - - - 55
Castor Pummace, - - - - - - - - 56
Night Soil, - - - - - - - - - - 58

Digitized by Google

Annual Address by Hon. Alvan P. Hyde, - - - - 69–82
Report of Judges on Shorthorns, - - - - - - 83
Devon Bulls, - - - - - - 84
Devon Cows, - - - - - - - 85
Herefords, Ayrshires and Alderneys, - 85
Grade Shorthorns, - - - - - 86
Grade Devons, - - - - - - 86
Natives, - - - - - - - 87
Working Oxen, 6 years old, - - - 88
" 5 " - - - - 88
" 4 " - - - 88
Steers, Devon Grade, - - - - - 89
Steers, - - - - - - 89
Milch Cows, - - - - - - 90
Fat Cattle, - - - - - - 90
Stallions and Mares of all work, - - 90–92
Matched Horses, - - - - - 92
Draft Horses, - - - - - - 93
Family Horses, - - - - - 93–94
Roadsters, - - - - - - 94
Mules, - - - - - - - 94
Sheep, Long Wool - - - - 95
" Middle Wool - - - - - 95
" Merino - - - - - 96
" Saxons and all Grades, - - - 96
" Fat - - - - - - 96
Swine, Suffolks, - - - - - 96
" Other Breeds, - - - - 97
Poultry, - - - - - - - 97
Plowing, - - - - - - 98
Farm Implements, - - - - - 99
Tools, Machinery, etc., - - - - 100
Butter, - - - - - - 100–102
Cheese, - - - - - 102–104

Digitized by Google

Report of Judges on Honey, - - - - - - - 104
Grain and Seeds, - - - - - - 104
Vegetables, - - - - - - - 105
Flour and Bread, - - - - - - 106
Household Manufactures, - - - - 107
Needle, Shell, Wax and Fancy Work, - 108
Textile Goods, - - - - - - - 109
Silver Ware, Cutlery and Fire-arms, - 109
House Trimmings, - - - - - - 110
Brass Work and Stoves, - - - - 110
Leather, etc., - - - - - - - 111
Wooden Ware, etc., - - - - - 111
Hats and Tailors' Work, - - - - 111
Cabinet Ware, - - - - - - 112
Carriages, - - - - - - - - 112
Musical Instruments, - - - - 113
Fine Arts, - - - - - - - 113
Miscellaneous, - - - - 113–114
Pears, - - - - - - - - 115
Apples, - - - - - - - 115
Peaches, Grapes, etc., - - - - 116
Special Premiums, - - - - - 117
Flowers, - - - - - - - - 117
Native Wine, - - - - - - 118
Field Crops, - - - - - 118–120
Farms, - - - - - - - - 120

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OFFICERS

OF THE

Connecticut State Agricultural Society,

FOR THE YEAR 1859.

President.

EPHRAIM H. HYDE, 2D, of Stafford.

Vice Presidents.

J. P. BARSTOW, of Norwich.
ROBBINS BATTELL, of Norfolk.

Vice Presidents, ex-officio.

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B. H. ANDREWS, Waterbury, New Haven Co.
THOMAS A. MEAD, Greenwich, Fairfield Co.
APOLLOS RICHMOND, Brooklyn, Windham Co.
J. M. WADHAMS, Goshen, Litchfield Co.
F. W. RUSSELL, Portland, Middlesex Co.

Directors.

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WASHINGTON WEBB, New Haven, New Haven Co.
JAMES A. BILL, Lyme, New London Co.
JOHN GOULD, Fairfield, Fairfield Co.
PELEG C. CHILD, North Woodstock, Windham Co.
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JAMES H. HYDE, Norwich, New London Co.
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EDWIN NEWBURY, Brooklyn, Windham Co.
GEORGE C. HITCHCOCK, New Preston, Litchfield Co.
E. S. DART, Middletown, Middlesex Co.
JOHN S. YEOMANS, Columbia, Tolland Co.

Corresponding Secretary.

HENRY A. DYER, Brooklyn, Conn.

Recording Secretary.

T. S. GOLD, West Cornwall, Conn.

Treasurer.

F. A. BROWN, Hartford, Conn.

Chemist.

PROF. S. W. JOHNSON, New Haven, Conn.

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Act of Incorporation

OF THE

CONNECTICUT STATE AGRICULTURAL SOCIETY.

At a General Assembly of the State of Connecticut, holden at New Haven, in said State, on the first Wednesday of May, in the year of our Lord one thousand eight hundred and fifty-two:

SEC. 1. *Resolved by this Assembly*, That Charles H. Pond, Robbins Battell, Thomas A. Mead, Henry A. Dyer, David S. Fowler, James T. Pratt, Thomas Cowles, Ephraim H. Hyde, 2d., Charles Robinson, William Stone, Henry P. Havens, Edwin Newbury and William Holman, together with such persons as may hereafter become associated with them, be, and they are hereby incorporated by the name and style of the "Connecticut State Agricultural Society."

SEC. 2. The object of the Society being the improvement of Agriculture, Horticulture and the Household Arts, they shall be, and are hereby, for those purposes, made capable in law, to have, purchase, receive, possess and enjoy, to them and their successors, land, rents, tenements, hereditaments, goods, chattels and effects, of what kind and quality soever, necessary to give effect to the purposes of this Society, and the same to sell, grant, demise, alien and dispose of, to sue and be sued, plead and be impleaded, defend and be defended in all courts in this State or elsewhere.

SEC. 3. The said Society shall have power to appoint such officers, as they may deem expedient, and also to make, ordain, establish and put in execution, such by-laws and regulations as shall be deemed necessary and convenient for the well ordering and government of said Society, and not contrary to this act and the laws of this State and of the United States, and to do and execute all and singular, the matters and things which to them may or shall appertain to do, subject to the rules and provisions, herein above prescribed.

SEC. 4. This act may be altered, amended or repealed at the pleasure of the General Assembly.

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CONSTITUTION.

SEC. 1. This association shall be called the "Connecticut State Agricultural Society," and its object is improvement in agriculture, horticulture and the arts.

SEC. 2. The Society shall consist of those citizens of the State who shall pay one dollar into the treasury annually. There may also be honorary and corresponding members. The payment of fifteen dollars or more shall constitute the donor a member for life and shall exempt him from the annual contribution.

SEC. 3. The officers of this Society shall be a President, two Vice-Presidents, a Corresponding Secretary, a Recording Secretary, a Treasurer, and one Director from each county, to be chosen at the annual meeting of the Society. The above, together with the Presidents of the County Societies, who shall be, *ex-officio*, Vice-Presidents of the Society, and one director from each county to be chosen by the County Society shall constitute the Executive Committee of this Society, which committee shall elect three members of its own body to constitute the Finance Committee of the Society. The officers of the Society shall hold their office for the term of one year, or until others are appointed in their stead. The Executive Committee shall take charge of and distribute or preserve all seeds, plants, books, models, etc., which may be transmitted to the Society; shall have charge of all publications; shall have power to fill any vacancies which may occur in the offices during the year; shall have charge of the interests of the Society in the counties in which they shall respectively reside, and shall have the general control of all matters pertaining to the interests of the Society.

SEC. 4. The Recording and Corresponding Secretaries shall perform the duties usual to such officers. The funds of the Society shall be in the custody of the Treasurer, who shall pay them out and invest them under the direction of the Finance Committee. He shall give bond to the satisfaction of the Finance Committee, for the faithful performance of the duties of his office: said bond shall be renewed as often as the same person is elected to office. It shall be the duty of the Treasurer to keep a particular account of the receipts and expenditures of the Society. He shall exhibit to the Executive Committee, as often as required the state of the treasury, and shall present to the Society, at its annual meeting, a full statement of his account audited by the Finance Committee.

SEC. 5. There shall be an annual meeting of the Society on the second Wednesday of January, at such place as shall be fixed upon at the previous annual meeting, at which all the officers of the Society shall be elected by ballot. Extra meetings may be convened by the Executive Committee, and at such meetings, twenty-five members shall constitute a quorum.

SEC. 6. The Society shall hold an annual Cattle Show and Fair at such time and place as shall be designated by the Executive Committee.

SEC. 7. This constitution may be amended by a vote of two-thirds of the members attending any annual meeting.

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REPORT

OF THE

EXECUTIVE COMMITTEE.

The Executive Committee of the Connecticut State Agricultural Society met at the New Haven Hotel, E. H. Hyde, 2d, President being in the chair.

The following resolutions were passed:

Resolved, That a Fair be held during the current year.

Resolved, That when this meeting adjourn, it adjourn to meet at New Haven, at the New Haven Hotel, on the first Wednesday of March, 1859, at 10 o'clock, A. M.

Resolved, That the next Fair of the Society be held during the second week of October.

Resolved, That a Committee of three be appointed to make a careful estimate of the expense for holding a Fair, and report at the adjourned meeting, reducing the whole expense of the Society for the current year to ten thousand dollars.

Resolved, That this Committee consist of Messrs. Robbins Battell, R. B. Chamberlain and F. W. Russell.

Resolved, That the Recording Secretary furnish certified copies of the votes passed by the Society referring to permanent location to the parties likely to compete.

Resolved, That the Corresponding Secretary be instructed to advertise for Proposals, and to give notice that he will in person negotiate with any respondents. Proposals to be received previous to March 1st.

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Resolved, That E. H. Hyde, 2d, Horace Williams, and R. B. Chamberlain be the Finance Committee for the current year.

Resolved, That Horace Williams be added to the committee on retrenchment.

Resolved, That the Committee on Pedigrees consist of Messrs. John A. Taintor, Robbins Battell, S. W. Bartlett, Abijah Catlin and B. H. Andrews.

Resolved, That the Executive Committee be divided to act as Committees in charge of the several departments at the next exhibition of the Society as follows:

On Class 1. *Cattle.*—T. A. Mead, F. W. Cowles, G. C. Hitchcock, W. G. Buell.

Class 2. *Horses.*—W. Webb, F. W. Russell, Jas. H. Hyde, A. Richmond, G. W. Dart.

Class 3. *Sheep, etc.*—Jas. A. Bill, P. C. Child, E. Hough.

Class 4. *Plowing.*—R. Battell, B. H. Andrews.

On Domestic Goods.—J. P. Barstow, R. B. Chamberlain, J. M. Wadhams, John Gould.

On Dairy and Horticulture.—J. S. Yeomans, E. Newbury, N. W. Stanley, Horace Williams.

The Committee then adjourned to meet the first Wednesday in March.

Attest, HENRY A. DYER, *Cor. Sec.*

At the adjourned meeting of the Executive Committee of the Connecticut State Agricultural Society, held at the New Haven Hotel, New Haven, March 2d, 1859.

E. H. Hyde, 2d, President, being in the Chair.

Mr. N. A. Bacon of New Haven appeared and resigned his seat in the Committee in favor of Mr. Benajah Ives of Cheshire, elected by the New Haven County Society as delegate.

The Committee proceeded to the election of Judges in the several departments for the next Fair.

Mr. J. N. Atwood of Woodbury, appeared and made statements in reference to report of his crops before the Executive Committee, whereupon it was

Resolved, That a premium of five dollars be paid J. N. Atwood for his crop of buckwheat.

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Resolved, That owing to his non-compliance with the rules of the Society in the measurement of his crop of corn, that no premium be awarded, but that the report of his crop be embodied in the transactions of the Society.

Resolved, That a Diploma be awarded to A. S. Skaats, for his carved Corinthian Portico, in place of three dollars awarded by the Committee.

The Committee, having in charge the expenses and preparation of premium list for the year, made their report, which was accepted.

Resolved, That the President of the Society, together with the Corresponding and Recording Secretaries, be the Sub-Committee of the Executive Committee, and that they be vested with full powers of the Executive Committee.

Resolved, That the publication of the transactions of the Society for the year 1858 be deferred.

Resolved, To publish 5000 copies of the premium list.

Resolved, To accept and adopt the report of the Committee on Farms.

Resolved, That the next exhibition of the Society be held at New Haven, provided land and buildings be furnished to the satisfaction of the Sub-Committee, otherwise the Sub-Committee are hereby authorized to negotiate with some other locality; proposals to be received previous to April 1st, 1859.

Resolved, That the Sub-Committee be authorized to negotiaate with parties for the construction of permanent buildings in any locality where funds may be proffered for the purpose and land offered.

Resolved, That the resolutions referring to location of exhibition be published in the New Haven papers.

Resolved, That the Committee accept the proposition of George Brinley, Esq., of Hartford, to offer a premium of $25 for the best load of hay offered.

A letter from John P. Barstow Esq., of Norwich, was read by the Secretary. Mr. Barstow resigns his post as one of the Vice-Presidents at large. His resignation was accepted.

Resolved, That Robbins Battell be first Vice-President at large.

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Resolved, That the 2d Vice-President, be chosen by ballot. John T. Norton of Farmington, was elected.

Resolved, That it is the sense of the Executive Committee, that if the cities of Hartford and New Haven will furnish for the use of the State Society, suitable permanent grounds and buildings for its annual exhibitions, that the Society will establish the policy of holding its Fairs alternately in the two cities.

Resolved, That it be left with the Executive Committee to affix and allow such compensation to Professor S. W. Johnson, the chemist of the Society, as the finances of the Society may in their judgment justify.

Mr. Dyer, the Corresponding Secretary of the Society, made statement that in consideration of the present condition of the Society, he would be satisfied with one thousand dollars as his salary for the current year.

Resolved, That the salary of the Corresponding Secretary of the Society be one thousand dollars.

Resolved, That the salary of the Treasurer of the Society be one hundred dollars.

The Committee adjourned *sine die*.

Attest, HENRY A. DYER, *Cor. Sec.*

Owing to the disastrous weather during the exhibition in Hartford in 1858, and the heavy additional expense contingent upon an extension of the Fair through another day, it was found that there was a deficiency in the assets of the Society of nearly two thousand dollars. It will be seen by the report of the Recording Secretary, that this deficiency was provided for through the public spirit of some of the members who made themselves liable for the full amount. The treasurer was thus enabled to meet all the liabilities of the Society promptly, and the responsibility resting upon the gentlemen who signed the bond, was removed by obtaining a sufficient number of life members to pay the bond.

The society was thus enabled to enter upon its new year without the onus of debt.

The result of the exhibition at New Haven, will as shown by the Treasurer's account, put the Society in comfortable pecuniary

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circumstances and afford a basis for operations in the current year, that will enable it to increase its usefulness and value in the State.

The expenses of the Society are large, and with the most rigid economy on the part of your committee they must necessarily continue so. In the past year it is believed that there have been no expenditures that have not tended to promote the influence of the Society and the benefit of exhibitors.

The institution is one designed to operate as a mutual benefit, and not to make money as a corporation, and the disposition on the part of exhibitors seems to be to have such amount as may be received in any year go to the expenses and premiums of that year.

From the fact that the action of the Executive Committee in reference to the issue of a premium list was deferred for some three months later than the usual publication, the time for the entries of farms was short, and but few entries were made of farms or reclaimed lands; two of the Committee were unable to serve, and in the judgment of the Sub-Committee it was deemed best to defer any action of that Committee until the next year.

The publication of the transactions of the Society for the year 1858, was delayed for the reason that the funds of the Society did not warrant the expenditure, and it was necessary to wait the decision of the legislature in the matter of an appropriation for that purpose before making contract for the printing. It was late in the session that the bounty was granted, and still farther delay accrued from the failure of the Committee on Farms to make a detailed report of their observations for the year. Eventually we were obliged to publish the volume without this very desirable report.

The exhibition of 1859 was held under particularly favorable circumstances, in respect of weather and location. A succession of fine days is always advantageous to the receipts of the Society, and we were eminently favored in this respect at New Haven.

The thanks of the Society are particularly due to the Brewster Park Association, to whose courtesy they were indebted for the gratuitous use of the grounds for the exhibition. This truly

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beautiful park, comprising some fifty acres, admirably arranged and located, had been but recently completed, and was fitly opened and inaugurated by this exhibition. The half mile track was in most excellent condition, and afforded all the facilities that could be desired for the exhibition of horses, while the outside mile road and general extent of the grounds presented ample space for vehicles and visitors, without that crowding and confusion that has attended previous exhibitions in less favorable localities.

The thanks of the Society are also due to the efficient Chief Marshal, Mr. Benj. Noyes, and to his aids for the accuracy and punctuality with which they devoted themselves to the duties assigned them, and also to many gentlemen of New Haven, whose active exertions and unwearied attentions as superintendants in various departments and otherwise, contributed so largely to the success of the exhibition.

The general arrangement in respect of the buildings erected was most admirable. At no previous one of our State Fairs have the arrangements for classifying and keeping together the various kinds of stock been so effectively carried out. The large extent of ground afforded an opportunity of locating the stalls for stock, horses, sheep, etc., so that while they were widely apart, they were yet within convenient distance of each other, and easily accessible. The stalls erected by the Society for the shelter of stock etc., were more extensive, and better covered than at any previous Fair. The horse-stalls particularly, were most excellent, while arrangements were also made to accommodate with sleeping quarters most of the attendants upon the stock and horses. No effort was spared to render the arrangements in these respects as complete as was necessary or desirable. The seats for spectators, opposite the judges' stand, were built by the Brewster Park Association (aided by a contribution from the Society), and were of the most substantial character, being designed as a permanency for the use of the association. They were capable of seating 2,500 persons.

The recent exhibition affords to all who are interested in the success of the Society, and in the objects it designs to forward, abundant evidence of the progress in improvement it has engendered and maintains. There was never a better show of stock

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in the State than was made at New Haven, there was less poor stock than has been offered at any previous show, and the grade of excellence is much higher than at the first exhibitions made by the Society. In horses the improvement is very marked, and it will not require many years to give Connecticut the palm in this very remunerative branch of husbandry.

The same difficulty obtained this year that has prevented a full display of the manufactures of the State, viz: the want of suitable buildings as a safe repository for valuable wares. The exposition of manufactures that may be damaged by bad weather, cannot be looked for under unsafe and leaky buildings. Your Committee will again urge the propriety of effort to procure some one or two localities where proper buildings can be erected and maintained for the use of the Society. The saving in the annual expense will very shortly pay the cost of proper structures, and so soon as these are obtained we may look for increase in the display of the varied products of the looms and machine shops of the State. Under these disadvantages, however, the show of articles of domestic manufacture was highly creditable. In addition to the buildings, tents, &c., devoted to this department by the Society, a large tent was put up by a company in New Haven, for the exhibition of carriages of their manufacture, and they and the other carriage builders of that city, exhibited the finest show of carriages of all descriptions ever before presented in this State. This most important branch of our industry is largely carried on in Connecticut, and in point of beauty and utility, will compare favorably with the manufactures of any other portion of the country. The other articles of domestic manufactures exhibited, were limited in quantity, as compared with previous State Fairs, but were generally of a meritorious order. The display of farm implements was large, in proportion to other articles, and many new inventions were shown which give promise of utility and value.

The Fine Arts department was very much inferior to the usual display at our Fairs. This is owing mainly to the fact that persons owning valuable pictures and works of art are unwilling to expose them to the liability to damage resulting from the insecurity of the place of exhibition. With a proper building, this

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would prove, and always could be made one of the most pleasing and gratifying features of our exhibitions.

In the Horticultural departments, the show was much less extensive than is usual or desirable. This, in some degree no doubt was owing to the unfavorable season for the production of fruit particularly. The show of vegetables was as fine as at any previous exhibition.

Sheep, particularly in Cotswold, South Downs and Merinos, were more than usually excellent. The show of Swine, though not large, was very favorable to the exhibitors. The Poultry show was not so extensive as at some former exhibitions, but there were numerous varieties exhibited and some very handsome specimens.

The dairy products do not seem to elicit that attention at our annual exhibitions, that their merits and importance warrant. The display this year, though limited, was meritorious.

Not the least pleasing and interesting feature connected with exhibitions of this character, is to note the assembled crowds that throng the grounds particularly during the last two days of the Fair. The attendance this year, owing to the eligible location and the superb weather was larger than usual. At no public gathering will the character, the orderly and respectable behavior, and general appearance of the visitors, be more apparent. It is a convention of the yeomanry of our State,—not for amusement, merely, but for the more specific object of interchange of thought and sentiment respecting Agricultural and Horticultural interests, and with reference to mutual improvement and advancement. It is gratifying to note the increased interest in such matters manifested by the substantial citizens of Connecticut, in the crowds that have attended the exhibitions of our Society.

On Friday, the Hon. Alvan P. Hyde of Tolland, delivered the Annual Address, and by vote of the Society it was ordered to be published.

The executive committee would again call the attention of the Society to the difficulties under which they labor, in selecting competent awarding committees in the various departments. The appointments are made by representatives from every county

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who are in, should be present, and then by careful correspondence the attempt is made to secure the services of perfectly competent men in every portion of the State. Of those who are invited to act upon committees, a portion only accept their assigned positions, and of these too many delay their attendance to the last days of the Fair, when their services have been superseded by other persons, and the duty assigned them has already been performed. If those who are solicited to act upon committees, would at once promptly respond, either accepting, or declining, so that in the latter event their places could at once be filled, and after accepting, appear promptly upon the ground in readiness to act in their respective duties, it would preclude the now forced necessity of selecting such men, haphazard—who are often utterly incompetent, at least acting reluctantly—as the Executive Committee are able to secure after the exhibition has already commenced. A strict attention in this most important matter on the part of individuals appointed to serve as judges, would assure exhibitors that the awards by the various committees were made by impartial men, and the most competent that could be selected for each particular class, and the awards themselves would be much more valuable as indications of the real opinion of the Society respecting the article exhibited. It is to be hoped, hereafter, that individuals who may be selected to serve in various committees, will act upon these suggestions, and accept and fulfil their duties; otherwise the *onus* of the dissatisfaction expressed by exhibitors, at the want of competency in forced committees, should rest upon the dilatory members who were regularly appointed, and not upon the Executive Committee who have made every effort to secure the services of the most competent and reliable men as judges.

It is greatly to be desired that some mode for securing a vested fund be entered upon, that will put the institution beyond the contingency of failure, in case of a rainy day during any Fair. The most feasible mode to accomplish this end, as your Committee conceive, is to secure one or two thousand life members, the amount derived from the fees to be made a permanent fund, to be managed only by life members of the Society. An annual income thus secured to the Society of some twelve or fifteen

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hundred dollars, will give assurance of success, or at least go far to prevent failure.

Application was made to the Legislature at the last session for the usual grant from State of $2500. There was a foregone conclusion in the spirit of economy that animated that honorable body to cut off this appropriation entirely, or at least to reduce it very materially. The appropriation was cut down to $1000, a subseqent grant of $600 was made to enable the society to publish its Transactions. The income of the Society was thus reduced $900 from this source.

That this appropriation is a just and beneficial one, no one can doubt who has seen the advantages that have accrued to the State from the agency and influence of the Society. A spirit of improvement is abroad which demonstrates itself in increased facilities for doing the labor of the farm, in the adaptation and use of machinery to accomplish many operations that have demanded ten fold the time and labor that is now required. It has changed, and is changing, the character and value of the cattle upon our thousand hills, adding vastly to the cash value of that class of property, and making large sections of the whole country tributary to Connecticut for their fine cattle. The value of the horse stock in the State is increased incalculably, and while we repudiate the charge that this society "is solely a gambling and horse-racing institution made up of fast men and fast women," we take pride in pointing to the noble show of this animal made at our annual shows, and claim credit to the Society for the impetus it has given in the right direction to this husbandry.

The reclamation of countless acres of swamp and useless meadow, the use of peats and muck, and the information that has been scattered broadcast through the State in the valuable papers prepared by the Chemist of the Society, affording opportunity to every man to secure himself from imposition and chicanery in the purchase of concentrated fertilizers; these, and a hundred other advantages which the Society is securing to the State, demand that every man who has any interest in progress and improvement shall put aside every petty consideration of party or politics, and meet his fellows in the Legislature with the determination to make the State Agricultural Society of Con-

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necticut an honor to the State and a blessing to its people. In order to secure the greatest possible advantage to the State from the expenditure of its public money, it should be so appropriated that it brings returns direct, palpable, and in furtherance of some fixed sysem and for given ends. The mere scattering of a few hundreds of dollars to be paid out in premiums, offered without unity or system, and in furtherance of no regularly derived order of improvement, is not the most judicious or valuable mode of spending the public property.

Your Committee in their last report, suggested a mode of uniting the agricultural interest of the State, that if followed will add vastly to the usefulness of the several societies, and ensure efficiency and utility in the use of the State bounty.

Accurate and reliable statistics from every town in the county, covering every item of general improvement that it is desirable to know may be secured. This information can be had at small comparative cost, and the appointment of some man in every school district in the town, who will take it upon himself to ascertain, with as much accuracy as he can, the amount of pork and beef raised in his district; another who will get at the bushels of grain and tons of hay; another who will give information of the amount of manure bought, and the acres of land drained, and others for other departments, if desirable; or, following out a different plan, a similar result might be attained by the preparation by this Society of a system of questions, a set for each month, the answers to which should cover the most important facts which it is desirable to know regarding our agriculture; and these questions being answered by the clubs at their monthly meetings, and printed blanks being filled out, they should be returned to the County Society's Secretary, to be kept for reference. The County Societies holding quarterly meetings, review these returns, and report previous to the annual meeting, to the Secretary of this Society who should prepare an abstract for presentation to the Society, and publication with the Transactions.

The importance of entire certainty in the purity of blood of all animals claiming to be thorough-bred has been often urged by your committee. A committee to decide on pedigrees of ani-

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mals offered in competition was appointed, as will be seen by reference to the report of the doings of the Executive Committee. This measure was a wise one, and as its effects are noted, it will prove satisfactory to breeders and buyers of blood stock.

On the 5th of April, a convention of breeders of thoroughbred stock met and organized themselves as a permanent body for the benefit and mutual advantage of breeders. It is proposed that the pedigrees of all animals owned by members of this association shall be subjected to the revision of a committee, and all animals of approved pedigrees will be entered on the books of the association with their full pedigrees given. The advantages of this arrangement to all interested in fine stock, are palpable, and will commend themselves at once to all who are breeders or buyers.

Your committee are glad to be able to congratulate the Society on a more prosperous year than has occurred for the three last years of its history, and if union of effort on the part of all individuals in the State who are interested in the cause of progress in the productive industry of the State can be secured, if the fancied antagonisms between the County and State societies can be buried in oblivion, we can see the proper development of all these institutions and the prosperity of the State, and large improvement and benefit to individual enterprise will be the result.

The farmers of the State have the control of its destinies, and in proportion to the advancing intelligence and prosperity of this class of men does the State take rank among its peers.

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Treasurer's Report

—OF—

RECEIPTS AND DISBURSEMENTS,

For the year ending Jan. 10, 1860.

THE CONNECTICUT STATE AGRICULTURAL SOCIETY IN ACCOUNT WITH F. A. BROWN, TREASURER.

1859.	DR.		
To cash paid Premiums awarded in	1858,	$209.00	
" Advertising	"	257.26	
" Medals awarded	"	115.38	
" Filling Diplomas	"	49.50	
" Printing Transactions	1857	536.61	
" Expenses of Committee on Farms	1858	84.60	
" " Soliciting Life Members	"	43.00	
" S. W. Johnson's salary as Chemist	"	400.00	
" Treasurer's salary	"	100.00	
" Incidental Expenses	"	296.26	
" Interest on Loans	"	18.00	
			$2,109.61
" Postage Stamps (for Premium Lists)	1859	30.00	
" Use of tents at New Haven	"	445.00	
" Clerk Hire	"	184.00	
" Hay and straw	"	680.44	
" Grain and Feed	"	50.69	
" Recording Secretary	"	66.63	
" Superintendents	"	260.17	
" Music	"	165.98	
" Steam Plow exhibition	"	200.00	
" Erection of buildings	"	2,500.00	
" Advertising	"	377.31	
" Printing show bills and Premium lists	"	308.75	
" Printing Transactions	1858	674.50	
" Brewster Park Association	1859	100.00	
" Premiums awarded	"	2,653.50	
" Salary of Corresponding Secretary	"	1,000.00	
" Amount refunded on Horses	"	296.00	
" Medals	"	192.00	
" Treasurer's salary	"	100.00	
" Incidental expenses	"	229.81	
			$10,514,78
To balance for cash in the Treasury to new account			$2,102,41
			$14,726.80

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1859.	Cr.		
By Balance from cash in Treasury from old account.....			102.50
By cash of Chas. F. Pond for am't of his subscription.....		100.00	
" Newton Case, do.....		25.00	
" Geo. Beach Jr.,.....		25.00	
" For life-memberships in Hartford.....		690.00	840.00
" F. W. Russell, Portland, am't of subscription....			50.00
" Gov. Buckingham, Norwich, do.....			50.00
" Life Memberships in Norwich.....			195.00
" " " New Haven.....			915,00
" Life memberships in other towns.....			195.00
" State Appropriation.....			1,600.00
" Memberships and admissions to Fair at N. Haven.		9,486.30	
" Privilege of victualling stands on Fair Grounds,..		589.00	10,075.30
" Subscriptions from citizens of New Haven.....			704.00
			$14,726.80

F. A. BROWN, *Treasurer.*

We hereby certify that we have examined the foregoing account with the vouchers, and found the same to be correct.

E. H. HYDE,
R. B. CHAMBERLAIN,
HORACE WILLIAMS.
} Finance Committee.

HARTFORD, Jan. 10, 1860.

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REPORT

—OF—

ANNUAL MEETING.

At a meeting of the Connecticut State Agricultural Society, held on the Fair Grounds at New Haven, Oct. 14th, 1859. Ephraim H. Hyde 2d, President, in the chair, the following resolution was presented after the address by Alvan P. Hyde, Esq., of Tolland, and unanimously passed by the Society:

Resolved, That the thanks of the Society be presented to Alvan P. Hyde, Esq., for his able and interesting address, and that a committee of two be appointed by the chair to solicit a copy for publication in the Transactions of the Society.

Hon. Chas. H. Pond and T. S. Gold, were appointed this committee.

T. S. GOLD, *Rec. Sec.*

The eighth annual meeting of the Connecticut State Agricultural Society, was held at the City Hall, in the City of Hartford, on Wednesday the 11th day of January, 1860, E. H. Hyde 2d, President in the Chair.

The meeting was called to order at 10 A. M., and gentlemen were called upon to pay their annual fees of membership. Mr. T. S. Gold, the Recording Secretary, being absent, his report was read by Mr. H. A. Dyer, and on motion was accepted.

The report of the Treasurer, Mr. F. A. Brown; was read and accepted, and it was ordered that a summary thereof should be recorded. H. A. Dyer, Corresponding Secretary, then presented the report of the Executive Committee, which was read, and on motion was accepted.

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On motion, Messrs. D. S. Dewey, P. D. Stillman, and M. C. Weld, were invited to sit with the Society as delegates from the Hartford County Horticultural Society.

The Treasurer's report was again read at the request of several gentlemen who were not present at the opening of the meeting.

On motion of Mr. Dyer, W. W. Stone was appointed Recording Secretary *pro tem.*

The report of the Chemist was called for, and Prof. Johnson who was present, stated to the society that by reason of indisposition he had been unable to complete his report in season for the annual meeting.

Messrs. David Clark, of Hartford, and John S. Yeomans, of Columbia, were appointed tellers, and the Society proceeded to the election of its officers for the ensuing year. The result was as follows:

PRESIDENT.

EPHRAIM H. HYDE, 2D, ... STAFFORD.

VICE-PRESIDENTS.

ROBBINS BATTELL, ... NORFOLK.
JOHN T. NORTON, ... FARMINGTON.

DIRECTORS.

CHARLES F. POND, of Hartford, Hartford County.
WASHINGTON WEBB, of New Haven, New Haven County.
JAMES A. BILL, of Lyme, New London County.
GEORGE OSBORNE, of Reading, Fairfield County,
CHARLES OSGOOD, of Abington, Windham County.
ABIJAH CATLIN, of Harwinton, Litchfield County.
R. B. CHAMBERLAIN, of Coventry, Tolland County.
LEVI COE, of Middletown, Middlesex County.

Previous to the election of the other offices, a lengthy discussion ensued as to the amount of salaries to be paid to the Corresponding Secretary, the Treasurer and Chemist, and as to whether the amount should be fixed by the Executive Committee as heretofore, or by the Society.

Pending the decision of the question, Mr. David Clark, introduced the following resolution, which had usually been passed at previous annual meetings of the Society:

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Resolved, That suitable salaries be paid to the Secretary, Treasurer, and Chemist for their services, the amount to be fixed by the Executive Committee.

The resolution was passed, but on motion was reconsidered and then rejected.

Mr. James H. Hyde of Norwich, moved that the salary of the Secretary be fixed by the Society at $500.

After various amendments had been proposed to this motion and several motions to adjourn had been negatived, the Society finally adjourned to 2 o'clock in the afternoon. The Society met at 2 P. M. pursuant to adjournment.

Mr. Twiss, of Meriden, moved that the salary of the Secretary be $1000 per annum.

The motion was advocated by Messrs. Twiss and Birdsey, of Meriden, and Hammond, of Killingly, and opposed by Messrs. Hubbard, of Middletown, Osborne of Reading, T. L. Hart, of West Cornwall, and Plumb of Trumbull, and after statements by the President and Mr. Dyer, who were severally called upon for information in regard to the duties of the office, was passed by an almost unanimous vote.

On motion of Mr. George Osborne, the salary of the Treasurer was fixed at $100 per annum. On motion the Society voted to allow to the Recording Secretary the necessary expenses incurred by him in behalf of the Society during the year.

Mr. Birdsey, of Meriden, moved that the matter of the chemist's salary be left with the Executive Committee, which motion was lost.

The election of officers was then completed as follows:

CORRESPONDING SECRETARY.

HENRY A. DYER, ... HARTFORD.

RECORDING SECRETARY.

T. S. GOLD, ... WEST CORNWALL.

TREASURER.

F. A. BROWN, ... HARTFORD.

The Presidents of the County Societies being *ex-officio* Vice Presidents of the State Society, together with the County Directors belong to the executive Committee.

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VICE-PRESIDENTS.

F. W. COWLES, Manchester, Hartford Co.
B. H. ANDREWS, Waterbury, New Haven Co.
B. B. PLUMB, Trumbull, Fairfield Co.
APOLLOS RICHMOND, Brooklyn, Windham Co.
ROYAL FORD, Goshen, Litchfield Co.
G. S. HUBBARD, Middletown, Middlesex Co.

COUNTY DIRECTORS.

JOHN A. HEMENWAY, Suffield, Hartford Co.
BENAJAH IVES, Cheshire, New Haven Co.
JAMES H. HYDE, Norwich, New London Co.
E. HOUGH, Bridgeport, Fairfield Co.
EDWIN NEWBURY, Brooklyn, Windham Co.
GEORGE C. HITCHCOCK, New Preston, Litchfield Co.
M. H. GRIFFIN, Middletown, Middlesex Co.
CHAS. P. RIDER, North Willington, Tolland Co.

Professor Johnson stated that it would be impossible for him any longer to occupy the position of Chemist to the Society with the same amount of salary as heretofore.

Prof. J. A. Porter then offered the following resolution:

Resolved, That the Executive Committee be authorized to expend during the present year, four hundred dollars in procuring such chemical analyses or other investigations as they deem important to the interests of agriculture in this State. The resolution was passed.

Mr. Twiss, of Meriden, introduced a resolution concerning horses which was amended so as to read as follows:

Resolved, That no neat stock or horses shall be exhibited for premiums unless such stock and horses shall have been owned and kept in this State for six months previous to such exhibition for premium.

The resolution was, on motion of Mr. David Clark, referred to the Executive Committee.

Mr. Twiss offered a resolution providing for the appointment of a board of appeal, to hear and decide upon cases of dissatisfaction with, and appeal from the decisions of awarding committee at annual fairs of the Society.

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The resolution was referred to the Executive Committee on motion of Mr. Osborne, of Reading.

Dr. S. W. Gold, of West Cornwall, introduced the following resolutions:

Resolved, 1st. That the Connecticut State Agricultural Society takes a deep interest in the effort that is being made at Yale College in the cause of Agricultural education.

2d, That it especially approves of the course of lectures on Agriculture at New Haven, in February, both on account of the high character of the gentlemen from various parts of the country who are to take part in it, and also because of its moderate cost and its peculiar adaption to the wants of the Agricultural community.

3d, That it earnestly recommends attendance on this course of lectures to the farmers of Connecticut.

The resolution after an interesting statement by Prof. Porter, concerning the proposed course of lectures, and remarks by Mr. E. C. Allen, of Meriden, commending the project, were unanimously passed.

The following resolution offered by Mr. Weld of Hartford, was passed:

Resolved, That the Society hold an exhibition in the coming fall, and that the Executive Committee be instructed to take the usual steps for that purpose.

Mr. Weld introduced the following:

Resolved, That this Society invite a competition in the experimental trial of mowing machines, and that a committee consisting of the sub-committee of the Executive, with two others be appointed to make preparations for such trial which shall take place in the month of June next; also that a judicious entrance fee shall be charged for each kind of machine competing, and that after paying expenses, the sum thus realized shall all be awarded in premiums.

On motion of Mr. T. S. Hart, the resolution was amended by adding the words, "provided it can be done without expense to the Society," and then farther amended, on motion of Mr. David Clark, by striking out all after the words "month of June next," and as amended, passed.

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On motion of Mr. Clark, the sum of two dollars was appropriated for the care of the hall occupied by the Society at this meeting. Mr. Twiss moved that the next annual meeting be held at Meriden, but withdrew the motion, and the Society then voted to hold its next annual meeting at the city of New Haven.

The following votes were unanimously passed:

A vote of thanks to the citizens of Hartford for the use of the City Hall by the Society at its annual meeting.

A vote of thanks to John A. Taintor, Esq., for beautiful specimens of Northern Spy Apples presented to the Society.

Thereupon the Society adjourned *sine die*.

W. W. STONE, *Rec. Sec., pro tem.*

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REPORT

OF

PROF. S. W. JOHNSON,

CHEMIST TO THE SOCIETY.

FOR 1859.

Henry A. Dyer, Corresponding Secretary of the Connecticut State Agricultural Society.

My Third Annual Report herewith presented contains analyses of all the commercial fertilizers that were to be found in the markets of the State during 1859. Their number being small, I have sought to increase the value of this report by adding several essays on cheap or neglected fertilizers.

Various circumstances, including illness, have prevented the fulfilment of this plan, the character of which is indicated by the accompanying pages on the economy of night-soil, a single subject of more importance to our agriculture than all the imported fertilizers that could be brought into the State. The use of lime, leached wood-ashes, coal-ashes, harbor and shore mud, seaweed, are among the topics I had thus hoped to discuss. My regret at the poverty of this Report is somewhat lessened by the reflection that the one I presented last year, as much exceeded, as this may fall short, of the anticipations of the Society. I should add that nearly all the analyses were executed by my friend Dr. Robert A. Fisher, whose skill and care are such as to warrant the fullest confidence in his results, and I take this opportunity to give public acknowledgement of his invaluable aid.

SAMUEL W. JOHNSON.

NEW HAVEN, Jan. 1860.

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EXAMINATION OF COMMERCIAL MANURES.

AMERICAN GUANO.

Under this name are included certain phosphatic deposits from Jarvis and Baker Islands in the tropical Pacific. Up to the close of this year (1859) the Baker Island Guano has only been known by samples, but the Jarvis' Island guano has been imported by the cargo, and was offered for sale in this State last Spring. The sample taken by Mr. Weld from the stock of Messrs. Backus & Barstow, of Hartford, was found to contain but nine per cent. of phosphoric acid.

On the publication of this analysis, Messrs. Backus and Barstow, greatly surprised at the results, sent me another specimen taken from 20 bags in their store at Norwich, writing that the sample before examined "was taken from one bag, and the agents think there must be some mistake in that analysis," adding "We send you this to prove the former analysis."

Immediately the former analysis was verified,* and the new sample also examined. The results are as follows:

	I.		II.	III.	
Water, expelled at Boiling heat,	17.98	18.09	——	18.53	18.85
Organic Matter and combined water,	5.35	5.38	——	7.15	7.17
Sand,	——	——	——	9.15	0.10
Lime,	——	——	32.28	31.49	31.02
Phosphoric acid,	8.68	8.63	9.15	6.75	6.69
Sulphuric acid,-	——	——	——	35.01	35.61

*In the analysis of these samples, some facts before unknown were brought to our notice, that are of considerable importance to the chemist who engages in similar examinations. The first analysis was published in *The Homestead*, in the following form:

Water expelled at a boiling heat	17.98	18.09
Organic matter and combined water,	5.58	5.88
Sand and insoluble matters,	33.70	34.00
Lime.	18.37	17.41
Phosphoric Acid,	8.68	8.63

The large amount of "sand and insoluble matters," here given, was afterward found to consist almost entirely of sulphate of lime, and on closer investigation it turned out that while the guano in its natural condition was readily soluble in Hydro-chloric acid, after being heated intensely to drive off the organic matter and combined water, it dissolved with great difficulty. It was further proved that sulphate of lime, though largely soluble in dilute hydro-chloric acid, is but slightly taken up by the fuming acid, is in fact precipitaated from its solution in weak acid on addition of the stronger acid. If a substance containing much sulphate of lime, as a superphosphate or native plaster of Paris, is treated before ignition, with a tolerably large quantity of rather dilute hydro-chloric acid, at a boiling heat, the sulphate though but coarsely pulverized, is readily and completely dissolved, and this method of solution is much preferable to treatment with an alkaline carbonate, &c. I should not neglect to state that by treating a sulphate with acid either diluted or concentrated, the phosphates are entirely taken up, although sulphate of lime may remain undissolved, as the above analyses show.

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I. Is the partial analysis of the specimen from Hartford from one bag.

II. Analysis in verification of I in respect to phosphoric acid.

III. Analysis of sample from Norwich, 20 bags.

These analyses will perhaps be more instructive if we arrange the separate ingredients together, as is done below for the sample No. III.

Hydrated Sulphate of Lime, (unburned plaster,) -	75.5
Bone Phosphate of Lime, - - - - - -	14.5
Moisture with a little organic matter and sand, -	10.0
	100.0

If we calculate the worth of this material on phosphoric acid alone, as we certainly have a right to do in case of anything sold at $40 per ton, (the price of these guanos) we have for the one sample the value $7, for the other $5.50 per ton.

The reason why we may properly neglect plaster in the valuation of so costly a manure is this: the only ingredients that can make a guano worth $40 per ton, are ammonia and phosphoric acid, and therefore this fertilizer *as a guano* is worth but $5.50 to $7.00 per ton.

If we regard the other ingredients of this manure, we have simply to add the value of three-quarters of a ton of plaster, which at the highest figure is $6.00, to the above named sums, and we have as the average value of the active ingredients of this manure, $12,25 per ton.

The proprietors of the American guano claimed for this manure certain advantages, which we are not prepared to admit. They held forth in their advertisements that it possessed peculiar merit on account of the "natural combination of sulphates and phosphates." This idea is in my opinion a pure fiction, unsupported by one solitary fact. Agricultural chemistry has abundantly proved the fertilizing properties of a great variety of combinations (mixtures) both natural and artificial, and without once detecting any superiority in the "natural combinations." It is maintained by agricultural science that an artificial mixture of 14.5 lbs. of bone-phosphate of lime *in a state of fine division*, and 75.5 lbs of ground Nova Scotia plaster will produce as good ef-

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fects as the stock of this guano in the Hartford and Norwich markets at less than one-third the cost.

It would be doing the managers of the company great injustice, however, to omit to mention that they based this opinion on the actual effects of the guano upon crops, and were confirmed in it by eminent scientific advisers.

Since presenting my (then incomplete) Report to the Executive Committee at their annual meeting in January, 1860, I have had opportunity to gain further information relative to the operations and prospects of the parties controlling the importations of guano from Baker and Jarvis Islands, which may be appropriately presented to the public in this place. The agent of the company in New York, John R. Sardy, Esq., put documents in my hands, showing that on each of the two islands in their possession, a competent chemist (Dr. R. H. Drysdale, on Baker, and Dr. Hague on Jarvis Island) has been stationed, whose business has been and is, to make an analytical survey of the islands, and to superintend the loading of the vessels. The company express their intention by this means to ensure the importation of a material that shall be of good and uniform quality.

I myself took samples of the cargoes of the ships Rambler, Polynesia and Gosport, lying in bulk in the Brooklyn docks, and found them to yield an average of 24 per cent. of phosphoric acid, equal to 50 per cent. of bone-phosphate of lime. In the certificate which I gave to Mr. Sardy, I remarked to the effect that the guano analyzed, was a valuable fertilizer, being on the one hand very finely divided, or admitting of easy pulverization, and on the other containing considerable organic matter and sulphate of lime, which being themselves readily decomposed or dissolved, must leave the phosphate of lime exposing a great surface to the solvent action of the soil water. Simple calculation from the complete analyses also show that in the Jarvis Island guano, *by far the larger share* of the Phosphoric acid exists in the form of what is most commonly called *neutral phosphate of lime*, which is characterized by a much greater solubility than is possessed by the bone-phosphate. For these reasons this guano manifests a greater activity than other guanos which are more compact or consist chiefly of bone-phosphate of lime.

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It is a remarkable fact that these guanos cannot be kept in bags, except for a short time, as the cloth soon loses its firmness and falls to pieces. I have also heard from several distinct sources that plants, garden plants in particular, roses, &c., when manured by this guano are exempt from insects. If this prove to be generally true, the fact will be of great service to the florist and gardener.

PHŒNIX GUANO.

This name is the title of a guano from McKean's Island, situated in the neighborhood of Baker and Jarvis Islands and occupied with a similar deposit. A sample representing the cargo of the White Swallow, imported by the general agents, Messrs. Williams and Haven, into this State, at the port of New London, gave me on analysis 23¼ percent of phosphoric acid, equivalent to 50 percent of bone-phosphate of lime, and I have not hesitated to recommend it to our farmers, especially, as I learn that the price will be entirely reasonable, viz: $27.50 per ton, or in quantities over five tons $25 per ton.

FISH GUANO.

I have re-analyzed the Fish Guano of the Quinnipiac Company, using a sample taken in my presence from the stock of Wm. B. Johnson's agricultural store in New Haven. The results are as follows:

ANALYSIS OF QUINNIPIAC CO.'S FISH MANURE.

Water,	10.63	10.65
Organic and volatile matter,	66.80	66.73
Yielding ammonia,	(6.41)	(6.56)
Sand and insoluble matters,	2.25	2.30
Lime,	8.65	8.69
Phosphoric acid, soluble in water,	1.41	1.42
" " insoluble "	6.18	6.23

The sample examined last year contained the following percentages:

Ammonia,	8.36	8.23
Phosphoric acid, soluble,	3.38	3 41
" " insoluble,	.81	.33

It is seen that the ammonia has decreased, and the phosphoric acid increased, the effect being a deterioration in value amounting to $5.30 per ton, the calculated value last year having been $32, and that of this sample being $26.70. This is certainly a falling off in the value that is of considerable account, and ought

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to be looked after by the manufacturers. The article bears every external mark of being conscientiously prepared, and it may, perhaps, easily happen that these variations of quality are unavoidable, from the nature of the materials and the process of manufacture. These accidents are, however, at any rate, such as the consumer ought to be guarded against.

SOMBRERO GUANO.

So fas as present data afford the means of judging, the Sombrero guano is the cheapest, and in composition the richest and most uniform of the phosphatic guanos. It comes from an island in the Caribbean sea, where it occurs as a porous rock of a yellowish white, pink or brown color, which, though quite firm in the mass, may yet be easily reduced to a fine powder.

This rock guano has been formed, doubtless, from the excrements of sea-fowls, which, exposed to alternate rains and sun, have entirely lost their animal matter, and soluble salts; and by processes familiar to the geologist, have left finally a cemented and hardened residue of phosphates of lime, magnesia and iron. This guano is of the same general character as the Columbian guano, which was in market some years ago; and much of the American guano now imported has a similar rock-like character.

The first importation into this State was made in the early part of this year (1859) per schr. Telegraph, by Messrs. J. M. Huntington & Co., of Norwich; and in June the same house received another cargo by the schr. "Ik. Marvel."

I have analyzed eight samples, viz.: of the first importation:

I. From Backus & Barstow, Norwich, ground sample.

II. From the importers. Average made by myself from a large number of rock specimens.

III. Ground guano from Backus & Barstow, Hartford.

And from the second cargo:

IV. A rock sample of the *white* variety.

V. Ditto for the *buff*.

VI. Ditto of the *pink*.

VII. Ground sample obtained by me from the mills at Norwich.

VIII. Furnished by Wm. B. Johnson & Co., of New Haven.

The analyses are given in the following table:

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ANALYSES OF SOMBRERO GUANO.

INGREDIENTS.	I.	II.	III.	IV. WHITE.	V. BUFF.	VI. PINK.	VII.	VIII.
Moisture expelled at boiling heat, ...	9.06	0.20 0.20	8.50 8.14	2.57 2.62	2.77 2.70	3.17 3.26	7.52 7.60	7.20 7.22
Matters expelled at red heat,		5.45 5.67	4.20 4.37	3.95 3.50	4.75 4.87	6.39 6.28	5.62 5.56	6.05 5.98
Sand,	0.80	0.52 0.50	0.56 0.57	0.35 0.40	1.55 1.20	1.75 1.90	1.50 1.30	1.25 1.45
Lime,	44.61 44.55	45.52 45.20	40.29 40.05	49.51 49.82	44.90 45.23	38.85 38.73	39.49 39.63	36.50 37.22
Phosphoric acid,	35.55 36.99	37.04 36.63	33.86 33.71	37.63 37.83	34.86 34.70	35.34 35.72	31.43 31.54	31.88 31.44
Carbonic acid,				5.04 5.04	4.19 4.19	3.29 3.30	4.40 4.40	
Ox. iron and undetermined matters,				0.95 0.79	6.98 7.11	11.21 10.81	10.04 10.55	
Phos. of lime equivalent to phos. acid,	78.50	79.88	73.21	81.75	75.36	76.98	68.20	68.59
Calculated value,	$32 64	$33 14	$30 41	$33 95	$31 30	$31 97	$28 33	$28 49

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This guano is sold at $30 per ton, and as the price of the best samples nearly reaches this figure when calculated with the valuation of phosphoric acid at 4 cents per pound, I was led to hope that we were warranted in estimating the price of this substance at 4 instead of 4½ cents per pound, as has been previously done. The analyses however show that this guano is liable to contain a not inconsiderable amount (8 percent) of moisture, and thus the percentage of phosphoric acid is somewhat reduced.

It is seen that the ground samples are not quite so rich in phosphoric acid as the unbroken lumps. This is due to two causes. 1st. There is unavoidably introduced into the cargo a certain amount of fine soil and other worthless matters during the loading of the vessel. 2d. The guano is impregnated with salt water, and the chlorids of sodium, calcium and magnesium, thus introduced into it, rapidly absorb moisture from the air when the guano is ground, especially if the weather be damp. I have found that these ground samples when put into perfectly dry atmosphere, at ordinary temperature, lose six to seven percent. of moisture in twenty-four hours, and recover it again in an equal time if exposed to moist air. The analyses III, VII and VIII, show that the maximum amount of moisture is 7 to 8 percent.

It is seen then that the Sombrero guano has withstood the most severe tests, and may be relied upon, especially since the importers use great care to select a pure material, and to reject the worthless or inferior rocks which occur with the native deposits.

The old notion that a good manure must have a smell is still entertained, even among very intelligent farmers. I have had the pleasure of giving my testimony personally against this prejudice, to some of them in reference to this guano, and it may not be useless here to repeat that "not all which stinks is good for manure, and not all which is good for manure stinks!" Asafœtida is no fertilizer, and plaster or lime, which everybody knows to be good manures, are almost entirely destitute of odor. So this guano is a powerful fertilizer when used where there is need of it; though it has no more smell than sand. It has been questioned whether these rock phosphates really possess the fertilizing value which is deduced from their contents of phosphoric acid. Experience has proved that the crystalized, or the

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more compact massive varieties of phosphorite (native phosphate of lime,) are very inefficient, or in some cases quite inert when used in coarse powder. This fact is due to their density and want of porosity, in consequence of which they are very slowly soluble.

If these phosphates are acted upon by sulphuric acid, they yield a super-phosphate which is as beneficial as any, and the *only* question of the activity of this Sombrero guano lies in its solubility, or what amounts to the same thing, its fineness.

The rock as before said, is for the most part extremely porous, and easily ground to powder when once reduced to small fragments. It is furthermore somewhat dissolved by pure water, and, in fact, to a greater extent than bone ash, this being due to its containing the intermediate or *neutral phosphate of lime.*

From these considerations, I should not hesitate to believe that this guano would prove a sufficiently active phosphatic fertililzer, when used alone, in soils not altogether too dry or deficient in vegetable matter.

In a gravelly or coarse sandy soil, that has insufficient retentive power for moisture, it would probably fail to exert any apparent effect in a dry season. This however, would be the fault of the soil and not of the guano. The use of it in conjunction with muck composts, or green crops turned under, must be serviceable on such soils.

The recommendation of the importers to apply it with Peruvian guano, or other ammonia-yielding fertilizer, is one that will be found advantageous.

Since writing the above, a report by Molon to the Academy of Sciences at Paris, has come to hand, in which are given the results of the use in various parts of France, of more than 2500 tons of a rock phosphate, inferior to the Sombrero guano here reported on in percentage of phosphoric acid, but of much greater hardness. The results were almost uniformly favorable, but they show that in order to acquire the most advantage from these phosphates, the following points must be attended to:

"1. The *finely*-ground phosphate alone suffices in clayey, slaty, granitic and gravelly soils which are rich in organic matters.

2. In the soils above named when poor in organic matters, es-

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pecially when they have been long under cultivation, or have had lime applied to them, the pulverized phosphate should be mixed with fermentible animal manures.

3. "In lime and especially in chalk soils, the phosphates must be converted into super-phosphate, with addition of organic matters." We have hardly any lime soils in Connecticut; but the super-phosphate will be most *perceptibly* useful on our "clayey, slaty, granitic and gravelly soils," which are mostly poor in organic matters, though if we supply organic matters, the *finely-ground* phosphate may be expected to prove useful here as it has in France.

RHODES' SUPER-PHOSPHATE OF LIME.

A specimen of Rhodes' super-phosphate of lime, made at Baltimore, and sent me by Mr. Weld, from the stock of G. M. Way & Co., Hartford, gave the following percentages:

Water expelled at 212°	22.25	22.34
Matters volatile at red heat,	20.17	20.00
Sand and insoluble matters,	1.82	2.57
Lime,	14.90	15.85
Phosphoric acid, soluble in water,	13.78	13.85
" " insoluble in water,	.64	.67

Messrs. Rhodes & Co., expressly state in their circular that their super-phosphate contains no ammonia, and accordingly this substance was not sought for.

This sample agrees very closely in composition with the one analyzed by me two years ago, and is the only real super-phosphate that has come into my hands since I have made analyses for the State Society.

The calculated value is $35, the selling price $45 per ton.

COE'S SUPER-PHOSPHATE.

A sample of Coe's super-phosphate from Messrs. Backus & Barstow, Norwich, was analyzed with results as follows:

ANALYSIS OF COE'S SUPER-PHOSPHATE.

Water,	18.10	18.27
Organic and volatile matters,	23.20	23.67
Lime,	22.63	22.66
Soluble phosphoric acid,	3.34	3.37
Insoluble " "	12.95	13.74
Actual ammonia,	.23	.23
Potential "	4.08	4.05
Sand and insoluble matters,	3.37	3.25
Calculated value,	$32.40	

This is better than the sample analyzed last year, and closely

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approaches the average composition of this brand of super-phosphate. We observe that there is less phosphates and more ammonia than in the former analyses. The amount of soluble phosphoric acid is still quite small.

MAPES' SUPER-PHOSPHATE OF LIME.

Of all the many fraudulent and poor manures that have been from time to time imposed upon our farmers during the last four years, there is none so deserving of complete exposure, and sharp rebuke, as that series of trashy mixtures known as "Mapes' super-phosphates of lime."

It is indeed true that worse manures have been offered for sale in this State; but none have ever had employed such an amount of persistent bragging and humbuggery to bolster them up, as has been employed by these.

Seven or eight years ago "Mapes' improved super-phosphate," was almost the only manure of the kind on sale in our northern markets. Then it was of good quality, and contained soluble phosphoric acid 10.65 percent; insoluble phosphoric acid 10.17 percent; ammonia (actual and potential) 2.78 percent, and had a value (calculated on present prices) of $44 per ton. It was sold at $50 per ton. This manure was the prototype of the following formidable series, viz:

	PER BAG.	PER TON
Mapes' nitrogenized super-phosphate of lime, -	$4 00	$50 00
" No. 1 superphosphate of lime, - - -	3 60	45 00
" Super-phosphate of lime, - - -	3 20	40 00
" cotton and tobacco super-phos. of lime, -	3 20	40 00
" potash super-phosphate of lime, - -	2 80	34 00

In my first annual report (page 28, 2d ed.) may be found analyses of the "nitrogenized," made on samples collected in the Connecticut markets, in the years 1856 and 1857. The calculated value of this manure was $21 in case of the samples analyzed in 1856, and $14.50 and $12.50 respectively for the specimens examined in 1857.

In my first report these manures were noticed in these words:

"It is clear that this is a brand not to be depended upon, and the material that has come into Connecticut the past year (1857) is hardly worth a long transportation."

I now communicate analyses of four samples, made the present year, and it will be seen that no improvement has taken place:

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ANALYSES OF FOUR SAMPLES MAPES' SUPER-PHOSPHATES, TAKEN BY MASON C. WELD, FROM THE STOCK OF J. W. ROYCE & CO., HARTFORD, CONN.

INGREDIENTS.	"Mapes' cotton and tobacco super-phosphate of lime." From 160 pound bag.		"Mapes' No. 1 super-phosphate of lime." Taken from 160 pound bag.		"Mapes' nitrogenized super-phosphate of lime." Taken from 160 pound bag.		"Mapes' nitrogenized super-phos. of lime." Taken from 1 pound sample can.	
Moisture expelled at boiling heat	13.42	13.62	18.70	18.87	20.55	20.75	14.37	14.32
Matters expelled at red heat	17.50	17.38	25.35	25.15	19.80	19.72	23.87	24.02
Sand and insoluble matter	17.85	18.10	13.60	13.70	12.17	12.50	12.67	22.57
Lime	23.48	23.84	17.91	18 07	16.63	16.18	19.41	19.37
Insoluble phosphoric acid	8.15	8.15	8.06	8.03	8.10	8.13	10.47	10.65
Soluble " "	tra ce.		tra ce.		None.		.57	.68
Potash								
Iron, sulphuric and carbonic acids, etc., not determined	19.60	18.21	16.39	16.18	22.75	22.75	18.64	18.37
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Potential ammonia	1.67	1.70	1.90	1.87	2.14	2.11	3.94	3.98
Calculated value, (per 2000 lbs)	$12 10		$12 50		$13 18		$22 24	
Price (per 2000 lbs,)	40 00		45 00		50 00		50 00	

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I have not been able to get samples of all the kinds above specified, but those whose composition is here given, will serve to characterize the manufacture.

The agents for Mapes' super-phosphates are furnished not only with the article in bulk, or in bags of 160 pounds each; but also with *one pound samples put up in cans, which they are instructed to furnish gratuitously to any who are desirous of trying the manure.*

It was of course interesting to learn how closely these trial samples correspond with the material which purchasers receive, and in case of the "nitrogenized super-phosphate" both classes of samples have been examined. The result is highly instructive, and shows that a small specimen, one pound in the can, worth at the rate of $22 per ton, is used as a bait to make the farmer swallow the 160 pound bags, the contents of which have the extraordinary value of $13 per ton.

Another remarkable feature to be noticed in the above analyses, is that the three specimens taken from 160 pound bags, and bearing different names, are, so far as their valuable ingredients are concerned, the same thing. The "cotton and tobacco," the "No. 1," and the "nitrogenized," letting the cans alone, are equally good, or I should rather say, equally bad. This fact proves that nothing is meant by the difference of names except to confound the purchaser, and make him imagine that among this great variety of fertilizers, some one must be adapted to his field and crops.

It is a well established fact that the tobacco crop removes a large amount of potash from the fields, and accordingly this substance was looked for in the cotton and tobacco super-phoshate, but it was not to be found.

Another point to notice is, that these mixtures, the calculated value of which is from one-quarter to one-third of what is demanded for them, are now sold under the analyses and recommendations that were procured years ago, on what was really at that time the best super-phosphate in the country.

Whoever proposes to invest money in a super-phosphate, should take notice, that the can sample excepted, neither one of these three kinds that have been examined, contained any weigh-

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able quantity of soluble phosphoric acid, and hence the seller is doubly liable to the charge of obtaining money on false pretences.

THE "PROGRESSION OF PRIMARIES" OR "ULTIMATES."

"*Millions of dollars are wasted every year by pursuing false theories.*"—PROF. J. J. MAPES.

The same prolific and luminous genius to whom the American public is indebted for the invention of these five superphosphates, is also the inventor of a new doctrine dating back only a few years, to the effect that there is a progressive increase in the value of the ingredients of a fertilizer, in proportion to the number of times it becomes a part of an animal or plant, and that therefore, a mineral phosphate for example, is comparatively worthless as a manure, considered beside a phosphate that is derived from the bones of an animal.

In the newspaper reports of the proceedings of the Farmers' Club of the American Institute, New York City, may be found the author's own statements of his doctrine, and from these sources they are copied. The New York *Times* has the following:

"Professor Mapes had noticed recently a theory broached as to fertile sandy lands which demand notice, viz: That lichens grow on solid rocks, and when that rock is coarsely granulated, plants of a higher order grow, even the wheat, corn, &c., that when the coarse soil is finely pulverized like the sandy soil of Miami Valley, Ohio, it yields heavy crops of grain and corn for years without manure. Now here is a fallacy, for it is not to the mechanical fineness of the soil that the fertility is at all due, but to those infinitely numerous fine particles of organic matter necessarily contained in it—those portions of former organized bodies in which matter has become adapted to vegetable life in a way that all the power of chemical analyses cannot imitate—that wonderful process of adaptation which is perfectly seen in its effects and hidden in its causes—so that while an ounce of phosphate of lime (for instance) is excellent food for plants, a whole ton of it as rock, which has never been used by organism, is perfectly useless."

Also the following from the New York *Tribune*:

"All mineral substances, whether carbonate of lime, phosphate of lime, sulphate of lime, potash, soda, salt, or other constituents of plants are valuable in proportion to the source from

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whence they are derived. The higher the organization of animal or plant, the more valuable the mineral obtained. The mineral phosphatic rock, which gives by analysis the same results as calcined bones, is worthless for manure, and a quantity of carbonate of lime from the pure limestone given to a field equal to two percent of the soil would render it barren, while forty per cent of the same mineral exactly, according to analysis, is extremely fertile. The cause is, one has never undergone any change since its deposit, and the other has passed through a long course of organized life."

"In New Jersey we get a good many ashes that are not leached, and these contain lime that is far more valuable than that from limestone. The principal value of leached ashes is the phosphate of lime, and that can be obtained from other sources much cheaper. The potash of ashes from a burnt hay stack is more valuable than potash found in any mineral that contains potash. So are the ashes of any tree containing potash, worth more than potash, lime or soda, in a mineral condition. The higher the organism from which we derive plant food, the more valuable it is. The blood of man is of far more value than the blood of a lower order of animals. Now the top of Bunker Hill Monument is composed of the ingredients that in a decomposed state would grow cabbage, yet who would think of trying to grow a crop on the top of that monument? You must look at plants as the crystalization of the ingredients of which they are composed. Millions of dollars are wasted every year by pursuing false theories. Now it is a fact that the ashes of a rose-bush are worth a hundred times more than the ashes of an oak to grow roses. They are all ready to assimilate into a new growth of rose-wood. The potash of ashes from a fire that has been much burned, in an air-tight stove, for instance, are far more valuable than the ashes of a log-heap. The lime of shells is more valuable than that from rocks, for immediate effect, for the simple reason that it comes from organized life, and previous to that it had existed perhaps thousands of years in plants and other animal life."

And in an interesting degree explanatory, the Professor "advanced the views previously set forth at the Club, as to the different degrees of refinement or progression. The potash in a soil made by decomposed felspar is much less refined and valuable to plants than the potash in unleached wood ashes. The carbonate of lime in the body of a man is much more sublimated than that in the chalk cliffs of Dover, or the marble of Westchester County. Now, these ultimate particles become

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refined, every time they pass from one kingdom to another. This change goes on continually in the manure-heap. The contact of masses of fermentescible matter developes a tendency to decompose. And as the salts and organic portions of that manure-heap are much more valuable for plants than the coarser duplicates which exist in the wild parts of the mineral world, the farmer should strive to keep the heap so as to save every grain of fertilizer."

The usually received theory is, that the ingredients of the food of a plant are of use on account of their peculiar and unchangeable properties, are of use because they may themselves supply parts of the vegetable structure. In a plant perfectly developed, we invariably find a certain (within narrow limits invariable) weight of carbon, nitrogen, lime, phosphoric acid, potash, &c., and it has been supposed to be proved by experiment, that if the weight or quantity as we call it, of all or any of these necessary ingredients be deficient, the weight of the plant itself will be correspondingly small. Obviously it is impossible to make a house weighing a thousand tons out of nine hundred tons of brick, mortar, lumber and nails, and it has been held that the universally received law of the unchangeable weight of matter, necessitates the conclusion that 60 lbs. of wheat always contains 60 lbs. of its ingredients. It has been believed, furthermore that matter fertilizes the soil, or what is the same thing, feeds the plant; not because it comes from somewhere, but because it enters the plant. In making soap or glass, potash is potash and lime is lime. In making matches it is found that they "go off" just as readily whether the phosphorus comes from rock phosphate or bone-phosphate.

Never, until Prof. Mapes announced the new doctrine, was it suspected that the elements of matter were endowed with changeable properties. But with all the confidence of a seer, our distinguished fellow-countryman announces that the basis on which the science of centuries reposes, is rotten, and we are oracularly warned of the "millions of dollars that are wasted every year by pursuing false theories."

On looking at the evidences against this doctrine of Progression we find it abundant and incontrovertible. We find

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that the rock-phosphate of Estramadura gave Dr. Daubeny and Sir H. Verney, as good turnip and mangel-wurzel crops as bones, either burned or unburned. (Journal Royal Ag'l Soc. of England, vol. VI. pp. 329 to 333). The mineral phosphates from Norway, from Amberg in Bavaria, from Hurdstown, New Jersey, and from many other localities, have been employed as fertilizers, and as successfully as phosphates from any other source. The evidence in favor of Mapes' doctrine is not to be found. His assertions quoted above, are opposed to all experience as well as to all science. They rest solely on the authority of Prof. Mapes. They are in fact simply ridiculous. We have only to carry out this principle far enough to show in the most convincing manner its utter absurdity, for by a vastly great number of "progressions" the point will be finally arrived at, when a grain of "progressed" phosphate shall equal a ton of mineral phosphate.

The only use that this vagary of the "progression of ultimates" or "progression of primaries" can serve, appears to be, to account for the great value of Mapes' superphosphates! Here we see its importance; but we shall be slow to believe that the few percent of really valuable fertilizing matters they contain, is so far *progressed* as to be already worth three or four times as much as the same ingredients of other manures, or that the insoluble phosphates of these manures are as good, and hence deserving as good a name as soluble or real super-phosphate. Do the materials (*primaries*, *ultimates*) out of which these manures are made "progress" with such rapidity, that a manure which in 1852, contained twenty-one percent of phosphoric acid, could produce an equal effect in 1857, though containing but thirteen percent, and in 1859, only requires to contain eight percent? Absurd as the doctrine of progression of ultimates in the abstract is, its logical applications are, if possible, more so, and will not find currency in Connecticut we may be sure.

It would be a waste of words to refute so contemptible a piece of quackery as this, were not unfortunately, many enquiring farmers constantly imposed upon by the tinseled clap-trap of unscrupulous pretenders.

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Home-made Super-phosphate.

The question has often arisen among our farmers—cannot a good superphosphate of lime be made at home, cheaper than it can be purchased in the Agricultural stores, and as to my knowledge, some have answered this question affirmatively, to their great satisfaction, I propose here to set forth the method and expense of such a manufacture, so as to facilitate this important home enterprise.

The materials that are now accessible in this State, as the phosphatic basis of a super-phosphate are—refuse bone-black and the phosphatic guanos. The former is to be had in New York city, and often at very cheap rates, but the price is fluctuating, and the quantity limited, so that as far as I know, this material is not to be relied upon as a steady source of phosphates. Of the phosphatic guanos, the Sombrero naturally claims our attention, because it is now imported directly into our State, and has very uniformly a high percentage of phosphoric acid. In experimenting on the preparation of a super-phosphate from this guano, I took

Sombrero guano	2000	parts, costing reckoned as pounds,	$30
Oil of vitriol	500	" " " "	15*
Water	250	"	

and proceeded in the following manner: the oil of vitriol was mixed with water, and the mixture still hot was poured upon *one-half* of the guano, whereby a thick pasty mass was obtained This was allowed to stand some hours, and then the other half of the guano was added; in this way a mixture was obtained so dry as to admit of handling without difficulty. After forty-eight hours it weighed 2690 parts, and contained 523 parts insoluble phosphoric acid, and 137 parts of soluble phosphoric acid, at a cost of $45 for the materials exclusive of labor.

To make one ton, or to make 100 pounds of this super-phosphate, we require, respectively 1480 lbs., or 74 pounds of Sombrero guano, and 370 pounds or 18 1-2 pounds of oil-of-vitriol.

In one ton or in 100 pounds of the product, we have 410 pounds or 20½ pounds of insoluble phosphoric acid, 100 pounds or 5 lbs. of soluble phosphoric acid, and 806 lbs. or 41 lbs. of hy-

*The highest price per carboy.

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drated sulphate of lime (unburned plaster), or the equivalent thereof of sulphuric acid.

The actual cost of the materials for a ton of this super-phosphate is $33.30, and the calculated value (based on soluble and insoluble phosphoric acid alone) is $31.04 per ton. There is here, it will be seen, a much less discrepancy between the cost and the calculated value, than in case of any commercial superphosphate, and if we set off the 800 pounds of unburned plaster, which our product contains—worth, say $3—against the cost of preparation, we have a decidely cheaper material than can be bought at present in this State.

The above trial was made with the sample No. III, sent me by Mr. Weld, from the store of Backus & Barstow, Hartford. I have made a similar experiment on the ground sample No. VII p. 37. The same quantities of guano, acid and water were employed, viz:

Sombrero guano,	2000 parts,
Oil of Vitriol,	500 "
Water,	250 "

As analyzed, the resulting mixture weighed 2655 parts, and it was found to contain considerably more soluble phosphoric acid, viz: seven and a half percent, with sixteen percent of insoluble phosphoric acid, while its caculated value was $34.20, or precisely equal to the cost of the materials.

The reason of the difference between this and and the former experiment lies in the fact that the guano first employed, contained more carbonate of lime than that last used. Now when we add oil of vitriol to the guano, any carbonate of lime it contains must first be decomposed before the action extends to the phosphates.

To explain more fully, every pound of combined carbonic acid, thus uses up its equivalent or 2.4 pounds of oil-of-vitriol.* In the first guano, the quantity of carbonic acid was not ascertained, but in the last sample it was found to be 4.4 percent. We have then in the 2000 parts of guano used, 88 parts of carbonic acid, and to neutralize this 211 parts of oil-of-vitriol are required, leaving but 289 parts of the latter for acting on the phosphates.

Further, it has been proved experimentally that where nothing interferes, one pound of oil of vitriol of ordinary strength,

*Ordinary oil of vitriol contains twenty-five per cent water.

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makes soluble 0.8 pound of phosphoric acid. In 2000 parts of this Sombrero guano, our 289 parts of oil-of-vitriol should accordingly produce 231 parts of soluble phosphoric acid, there are however but 199 parts in the soluble condition, (seven and a half percent of 2655) and accordingly 32 parts of phosphoric acid have escaped liberation, and 40 parts of oil-of-vitriol have failed to exert a solvent action. The reason why all the oil-of-vitriol does not make its equivalent of phosporic acid soluble, lies in the impossibility of effecting complete contact between it and the phosphate. The sulphate of lime (plaster) formed, is a bulky, porous body, and absorbs, sponge fashion, a portion of the oil of vitriol.

I have still another experiment to describe, in which the quantity of oil-of-vitriol was increased one-half. The quantities taken were as follows:

Sombrero guano	2009 parts,	costing reckoned as pounds,	$30.00
Oil of vitriol	750 "	" " "	22.50
Water	250 "		

The guano was the same as in the last trial, and the mixture was operated in a similar manner. The resulting super-phosphate weighed 2884 parts, and contained 336 parts of insoluble phosphoric acid, and 294 parts of soluble phosphoric acid, at a cost of $52.50 for the materials.

To make one ton or to make 100 pounds of this super-phosphate, we require 1380 pounds or 69 pounds of Sombrero guano, and 520 pounds or 26 pounds of oil-of-vitriol; while 160 pounds or 8 pounds of water are taken up, and 60 pounds or 3 pounds of carbonic acid are expelled.

In one ton or in 100 lbs. of the product, we have 200 pounds or 10 pounds of soluble phosphoric acid, 250 pounds or 12 pounds of insoluble phosphoric acid, and 840 pounds or 42 pounds of hydrated sulphate of lime, (unburned plaster) or the equivalent thereof of sulphuric acid.

The actual cost of the materials for a ton of this super-phosphate is $36.40, and the calculated value of the product is $35.80.

It thus appears that the first mixture is not less economical than the latter, when judged by its yield of soluble phosphoric acid; for although one half as much more oil-of-vitriol was used, there is

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no real gain, since the action of the oil-of-vitriol on the phosphates does not increase in precise proportion as its quantity is increased, on account of the greater hindrances to intimate mixture and perfect contact which arise from the larger production of sulphate of lime.

I find too, that, independently of this consideration, that there are practical difficulties in the way of using so large a quantity of oil-of-vitriol, as 750 pounds to the ton of guano, (37 1-2 pounds to the 100 pounds of guano.)

When this latter quantity is used the mixture is at first quite fluid, and would require to be mixed in tight vessels, and after standing some time it hardens to lumps, from the *setting* of the plaster formed in its preparation.

If however, we use the proportions mentioned in the first trial, neither of these difficulties are experienced.

Directions for making Super-phosphate.

So far as I can judge from experiments on so small a scale as mine have necessarily been, the practical process for making super-phosphate from Sombrero guano is as follows:

The best proportions of the materials are those employed in my first two trials, and as it is important to work on small quantities, we may mix at once

125 lbs. or one bag Sombrero guano.
32 " or two gallons and one quart of oil-of-vitriol.
16 " " " of water.

The oil-of-vitriol may be weighed out, or if this be not convenient, it is measured out in a common three gallon earthen pickle jar, which is converted into a measure by first filling into it two gallons and one quart of water, and making a deep scratch on the inside at the surface of the water.

The oil-of-vitriol and the water being measured off, are now to be mixed. This done by pouring the acid in a slow stream into the water with constant stirring (*never* pour the water upon the acid.) In this operation earthen vessels are best, but a tight wooden vessel may also be employed. The mixture becomes very hot, and blackens wood. Care should be taken to avoid spilling the acid on the clothes or flesh. It is better to transfer it by a ladle made of stout sheet lead or earthen-ware, than to pour it.

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The diluted acid being ready, it is to be used while still hot. Half the contents (roughly meausured) of a bag of Sombrero guano is placed in a heap on a wide board, or better, in a tray of plank with a rim a few inches high, and the acid is ladled upon it, and at the same time intermixed with help of a suitable wooden stirrer. In this way a pasty mass is obtained, and with a little care, this one-half the guano will absorb the whole of the acid. After the mixture is completed, the remainder of the guano is sprinkled in, with thorough stirring, and in a short time the mass may be thrown out thinly upon a floor, and after standing a day or so it will be a finished super-phosphate, dry and fine, and ready for broadcast or drill sowing.

On the large scale my detail of method and results may doubtless be varied somewhat; but I trust any one can use these directions easily and successfully.

It may be found better to mix smaller quantities than I have given. A few trials will establish the right method, and it is to be desired that any one who may experiment in this manner should make public an account of his experience for the general good.

On the uses of Super-phosphate.

The experience of British agriculture has shown that this manure produces the best effect in general upon root-crops, especially upon turnips, ruta-bagas and carrots. Instances are known, as in the celebrated field experiments of Lawes and Gilbert, in which a soil that alone could produce turnips no larger than butternuts, would by simply manuring with super-phosphate, yield good crops, and this, year after year.

As the result of this experience, super-phosphate is now almost always employed for manuring the turnip crop in Great Britain. It is in many cases also, an excellent application to grain crops, but for them is usually employed in connection with ammonia-yielding fertilizers.

Applied to meadows alone, it has been observed in some instances to bring in red clover, but if used with ammonia-yielding manures, the true grasses entirely displace the clover in time. Applied to old pastures it is a sure remedy for bone sickness in the cattle grazing on them. On all leguminous plants, peas, beans, lucerne, etc., it has generally a marked effect.

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The above statements refer to a super-phosphate properly so called, containing no ammonia. When nitrogenous (ammonia-yielding) matters are incorporated with the super-phosphate, its benefits are in most cases enhanced. This can be done by mixing it with any nitrogenous fertilizer, as Peruvian guano, fish guano, cotton seed cake or castor pummace, and the farmer will do well to compare its action alone, and in connexion with some of these manures, on his various soils and crops.

How Applied.

Super-phosphate may be either drilled in with the seed in case of root crops, or sown broadcast as a top-dressing for grains and meadows. In either instance in order to effect a good distribution, it is best to mix it thoroughly with 4 to 5 times its weight of fine muck, hard coal ashes, or dry sifted earth before application, and the best time to apply it is just before a rain.

As to the quantity that may be employed, British farmers recommend 500 pounds per acre on most root crops, or half that amount, if ten to twelve tons of stable manure be applied at the same time. For potatoes, 700 pounds will not be too much, while 400 pounds are sufficient for peas and beans.

To give an idea of the extent to which this manufacture is carried on, in England, may be added the statement recently made by a German Agriculturist, who says that one-half of all the enormous quantity of oil-of-vitriol now made in that country, is applied to the soil in the shape of super-phosphates.

SUPER-PHOSPHATE *vs.* BONE PHOSPHATE.

The question has been raised of late—is there any ultimate profit in the use of a super-phosphate? In other words is money better spent for a little highly soluble super-phosphate, which is of speedy but not permanent use, or for a larger quantity of the slower acting bone-phosphate?

Dr. Cameron, of Dublin, has published some experiments on this point which are quite decisive, and I quote them for the benefit of the consumers of phosphatic manures. Dr. C. expresses his opinion that well ground and steamed, or even fermented bones, would be found cheaper weight for weight, than

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commercial super-phosphate of lime, if the results of three or four years be considered. Dr. Cameron's experiments were made with turnips, on a light, well-drained loam of medium fertility, and extended over a space of three years. He used three manures, viz: Ichaboe guano, super-phosphate of lime, and ground bones, that would pass a sieve of forty holes per square inch. The manures contained:

	GUANO.	SUP'PHOS.	BONES.
Soluble phosphate of lime,		16.22	
Bone phosphate of lime,	34.51	11.33	48.47
Sulphate of lime,			
Ammonia,	8.28	3.28	5.55

The amount and cost of the applications for the first and second years, were as follows:

Guano,	6	cwt., costing	£3	sterling.
Super-phosphate,	7½	" "	3	"
Bones,	7½	" "	3	"

For the third year half the above quantities were employed.

The first year the yield was somewhat greatest where the super-phosphate was applied. The second year the result was slightly in favor of the bones, and more decidedly so the last season. The total yield per acre for the three years, was as follows:

	TONS,	CWT.	QRS.
Guano,	53	16	2
Super-phosphate,	53	7	1
Bones,	56	12	3

Some of our farmers would do well to make careful comparative trials of this sort, and might not the State Society appropriately offer premiums for experiments in testing important points like this?

BONE-DUST.

A specimen of this fertilizer from the store of Wm. B. Johnson, of New Haven, has been examined. 61½ percent of it passed a seive of eighteen holes to the linear inch; thus evidencing a good state of mechanical division, compared to what is usually sold as "dust." By analysis the following figures were obtained:

ANALYSIS OF BONE-DUST.

Water,	6.90	7.07
Organic (animal) matters,	29.65	29.52
Sand,	6.31	6.20
Lime,	29.41	29.29
Phosphoric acid,	15.90	16.04
Carbonic acid, with a little magnesia, soda and iron,	11.83	11.88
	100.00	100.00
Ammonia corresponding to the animal matters,	3.63	3.46

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This article is made from boiled bones, and contains the usual percentages of its ingredients, phosphoric and carbonic acids excepted; the former of which is five percent lower, and the latter correspondingly higher than in the other samples which have come under examination.

This sample was furnished by Chauncey Goodyear, Esq., of Hamden, and by him estimated to cost $20 per ton. It is sold by the bushel. The calculated value is $24.20 per ton.

FERMENTED BONES.

The inquiry having lately come up, if there is any method known of bringing whole bones into a pulverized condition, otherwise than by grinding or treatment with oil-of-vitriol, I take opportunity to communicate to the State Society, the process of reducing them into a convenient form by fermentation.

This process has been practiced in England for ten years or more, having been brought before the public there by Mr. Pusey, for many years the editor of the Journal of the Royal Agricultural Society, of England; but it appears not to have become very widely known in this country.

The process depends upon the fact that bones consist to the amount of one-third their weight, of cartilage, or animal matter, which under the influence of warmth and moisture, readily decomposes, (ferments or decays), and loses its texture, so that the bones fall to dust.

From the closeness and solidity of the bony structure, decay is excited and maintained with some difficulty. A single bone or a heap of bones, never decays alone, but dries and hardens on exposure. If, however, bones in quantity be brought into close contact with some easily fermentable moist substance, but little time elapses before a rapid decay sets in.

So too, if fresh crushed bones are mixed with sand, soil, or any powdery matter that fills up the spaces between the fragments of bone, and makes the heap compact, and then are moistened with pure water, the same result takes place in warm weather, though more slowly.

The *practical process* may be as follows: The bones, if whole should be broken up as far as convenient by a sledge-hammer,

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and made into alternate layers with sand, loam, saw dust, leached ashes, coal ashes, or swamp muck, using just enough of any of these materials to fill compactly the cavities among the bones, but hardly more. Begin with a thick layer of earth or muck, and as the pile is raised, pour on stale urine or dung-heap liquor enough to moisten the whole mass thoroughly, and finally, cover a foot thick with soil or muck.

In warm weather the decomposition goes on at once, and in from two to six or more weeks the bones will have nearly or entirely disappeared.

If the fermentation should spend itself without reducing the bones sufficiently, the heap may be overhauled and built up again, moistening with liquid manure, and covering as before.

By thrusting a pole or bar into the heap, the progress of decomposition may be traced, from the heat and odor evolved.

Should the heap become heated to the surface, so that ammonia escapes, as may be judged by the smell, it may be covered still more thickly with earth or muck.

The larger the heap, the finer the bones, and the more stale urine or dung liquor they have been made to absorb, the more rapid and complete will be the disintegration.

In these heaps, horse dung or other rapidly fermenting manure may replace the ashes, etc., but earth or muck should be used to cover the heap.

This bone compost contains the phosphates of lime in a finely divided state, and the nitrogen of the cartilage which has mostly passed into ammonia or nitrates, is retained perfectly by the absorbent earth or muck.

When carefully prepared, this manure is adapted to be delivered from a drill machine with seeds, and according to the testimony of English farmers, fully replaces in nearly every case, the super-phosphate made by the help of oil-of-vitriol.

CASTOR PUMMACE.

A sample of castor pummace sent by Mr. Weld, and taken from the stock of Messrs. Beach & Co., Hartford, has been analyzed, with the subjoined results:

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Moisture,	9.05	8.95
Organic matters,	83.55	83.57
(Yielding ammonia,	4.90	4.90)
Sand,	1.00	1.10
Lime,	1.18	1.09
Phosphoric acid.	1.97	1.99

This sample corresponds ver yclosely in composition with the one sent me by the manufacturers, Messrs. Baker, Labourette & Co., N. Y., and reported on last year.

The calculated value is $15.50. The selling price is $16.00.

This appears to be an admirable material for composting with muck, and doubtless the best results would follow the use of such a compost, especially if a good share of some phosphatic manure as bone-dust or Sombrero guano, were incorporated with the mixture.

From practical men we indeed hear various reports as to the efficacy of the castor pummace, but there is no doubt that it will be uniformly useful if used with judgment.

In my report for last year were given some rules to be observed in its application which are here reproduced:

Some caution must be exercised in the use of this class of manures, because their action is so powerful that in very heavy doses they may over-force the crop, or even destroy the seed when put in contact with it at the time of planting. It has been asserted that the content of oil of the oil-cakes hinders the germination of seeds, by preventing access of water to them. I am inclined to believe however, that their detrimental action is due to their readiness of decomposition, whereby the seed is caused to rot. In fact there are only a few instances on record of their occasioning this sort of injury, and in these they appear to have been applied in very large quantity. We can estimate the proper allowance per acre of castor pummace, by comparing its per cent of ammonia with that of guano. It contains just about one-third as much of this ingredient, and accordingly we may safely use three times as much of it. We know that 600 pounds of guano per acre is a very large manuring, and 200 or 300 pounds is usually the most profitable, in the long run. These quantities correspond to 1800, 600 and 900 lbs. respectively of castor pummace. I find that the largest doses of rape cake, (a manure of almost identical composition, rather inferior in amount

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of ammonia perhaps) given in English and Saxon husbandry, are 1500 to 2000 pounds per acre, while 600 to 800 pounds are the customary applications. More is needed on heavy than on light soils.

It is frequently urged as an objection to manures of this sort that they exhaust the soil. It is however always the crops that are removed, and never the manure applied, which exhausts the soil. The *exclusive* and continued use of this or any similar fertilizer will be followed by exhaustion; but by judiciously alternating or combining it with mineral manures, as wood ashes leached or unleached, New Jersey green-sand, superphosphate of lime, or phosphatic guano, it may be used with safety and advantage. I learn that *ground* castor pummace is now on sale in some of our agricultural stores. This must be greatly superior to the merely crushed article, as it admits of much easier and more complete distribution.

NIGHT-SOIL.

In my first annual report, under the subject of Poudrette, allusion was made to the value of night soil as a fertilizer. It is truly a matter of wonder that so little use and so much detriment are experienced from this material among the most civilized nations.

Nobody among us is ignorant of its "strength" or its "virtues," as we term its fertilizing powers, and yet our ideas of its merit and the means of economizing it are so vague, that next to no use is made of it in this country.

As soon as we have settled in our minds that the value of a manure, both commercially and agriculturally considered, depends upon its content of certain ingredients, whose individual action has been traced out and estimated with a fair share of accuracy, we are left without excuse if we neglect to apply this knowledge to these matters that lie at our doors.

The majority of our farmers utterly ignore night-soil in their agricultural practice. On the other hand, those who employ it are liable to over estimate its worth. Let us then endeavor to get a true notion of its value, of the causes which deteriorate it, and ascertain how it may be preserved and applied.

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In the first place, we understand that night soil consists of the mixed solid and liquid dejections of the human animal. In case of the adult, there daily passes away a quantity of materials corresponding to the amount of food which is consumed. A full grown person scarcely changes weight during a period of many years; plainly then, as much must be separated from the body as is put into it. A considerable share of the food is removed from the animal in the shape of carbonic acid gas and water, another goes off in the perspiration, another in the fecal discharge, and another in the urine.

Now the valuable fertilizing matters are nitrogen in the form of *ammonia* (actual or potential,) and the fixed mineral matters (salts) especially *phosphates* and *sulphates of lime*, *magnesia* and *potash*.

While the larger portion of the carbon and hydrogen of the food is consumed in the body by the process of respiration, into gaseous carbonic acid and vapor of water, and as such is breathed off into the atmosphere, *nine-tenths* of all the nitrogen of the food, and all the fixed mineral matters, (phosphates, &c)., are separated in the night soil, *one-tenth* only of the nitrogen escapes from the body through the lungs and skin as volatile (gaseous) carbonate of ammonia.

From these facts which have been determined experimentally by men of science, it is plain, that, by carefully economizing the solid and liquid excrements of man, all the fixed mineral matters, and nine-tenths of the ammonia which have been expended (as ingredients of the soil or of manures) in once producing his food, are again placed in the hands of the cultivator, as manures and may serve him again to grow another supply of similar food.

It is also true that what may thus be saved and applied to the soil, from the food required to support one or a hundred men for a given time, say one year, will, added to the native resources of a fair soil, more than reproduce the amount of food consumed.

The origin of night-soil gives us thus at once a key to it manurial effects. It is in fact human food converted into manure, with little or no loss of the matters important in a fertilizer. It is obvious then that its value may vary greatly as the food varies

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from which it is formed. When the food is rich and abundant, the night soil will have the same qualities, and where the food is poor the excrement will correspond. It is said to be a fact that in Paris the contents of the vaults of the first class hotels and restaurants bring a much larger price from the manure dealers than is paid for the night-soil of work-houses and hospitals.

From the general fact however, that, especially in this country, the human animal is better fed than any other, it follows that human excrement is richer and more fertilizing than any other.

It of course contains every ingredient of the food, and every ingredient required in a manure. In the fresh state the average general composition of human fæces and urine is as follows:

	FÆCES.	URINE.
Water,	79. per cent.	95.6 percent.
Organic matters,	18. "	3.2 "
Ash,	3. "	1.2 "
	100.0	100.0

When the water is fully expelled there is found in the dry substances according to Way:

	FÆCES.	URINE.
Organic Matters,	88.52 percent	67.54 percent
Insoluble silicious matter,	1.48 "	0.09 "
Oxyd of iron,	0.54 "	0.05 "
Lime,	1.72 "	0.61 "
Magnesia,	1.55 "	0.47 "
Phosphoric acid,	4.27 "	4.66 "
Sulphuric acid,	0.24 "	0.46 "
Potash,	1.19 "	1.83 "
Soda,	0.31 "	— "
Chlorid of Potassium,	— "	5.41 "
Chlorid of Sodium,	0.18 "	18.88 "
	100.00	100.00
Nitrogen in the organic matters,	5.59	19.34

These analyses give of course only the composition of these matters as found in one particular case, but from them we may form a sufficiently accurate idea of the character and proportion of the fertilizing ingredients generally contained in them.

In the following table is given, (chiefly after Lawes, Journal Society of Arts, vol 3, p. 270,) the average quantities of liquid and solid excreta, and their chief ingredients, voided during 24

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hours by persons of various ages and both sexes. These averages are obtained from pretty nearly all the data now in the possession of the physiologist, and while illustrating the differences caused by circumstance, they give a very just idea of the average amounts of fertilizing matters daily contributed to agriculture by each well fed human being.

AVERAGE AMOUNT OF HUMAN EXCREMENTS AND THEIR CONSTITUENTS (IN OUNCES AND HUNDREDTHS) VOIDED IN 24 HOURS.

INGREDIENTS.	MALES UNDER 15 YEARS.	MALES FROM 15 to 50 YEARS.	MALES OVER 50 YEARS.	FEMALES UNDER 16 YEARS.	ADULT FEMALES.	AVERAGE OF ALL THE FOREGOING OBSERVATIONS.	AVERAGE OF CITY POPULATION OF BOTH SEXES AND ALL AGES PER HEAD.
FRESH EXCREMENTS.							
Fæces	3.89	5.98	6.20		1.24	4.32	3.00
Urine	21.24	55.18	42.05	14.18	36.66	33.86	32.00
Total	25.13	61.16	48.25	14.18	37.90	38.18	35.00
DRY SUBSTANCES.							
Fæces	0.84	1.33	1.16		0.33	0.91	
Urine	0.73	1.58	2.26		1.38	1.49	
Total	1.57	2.91	3.42		1.71	2.40	2.01
MINERAL MATTERS.							
Fæces	0.10	0.16	0.23		0.05	0.13	
Urine	0.34	0.62	0.34		0.32	0.40	
Total	0.44	0.78	0.57		0.37	0.53	0.45
NITROGEN.							
Fæces	0.06	0.05	0.09		0.03	0.06	
Urine	0.17	0.48	0.38	0.18	0.29	0.30	
Total	0.23	0.53	0.47	0.18	0.32	0.36	0.35
PHOSPHATES.							
Fæces	0.06	0.12				0.09	
Urine	0.08	0.19	0.14			0.14	
Total	0.14	0.31	0.14			0.23	0.20

In the right hand column are given the averages for a mixed population, (the city of London) and these are employed in our subsequent calculations.

If we multiply these figures by 365, we obtain the following

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statement as the average quantity of dry night soil, and of its chief fertilizing ingredients, supplied by each inhabitant yearly:

	POUNDS AND TENTHS.
Organic matter,	36.0
Phosphoric acid,	2.3
Lime, alkalies and other mineral matters,	7.7
	46.0
Potential ammonia in organic matter,	9.7

The estimate of *Nesbit*, employed in my first annual report, referred to the male adult, and was considerably too high for the average of population, though doubtless the one here given is rather low for a people so well fed as ours.

The commercial value of the night-soil of each person, calculated from ammonia and phosphoric acid alone, amounts indeed, to but $1.50 annually; but this method of valuation, as has been insisted on in my 1st Report, is not by any means applicable to this kind of fertilizers.

James Smith, of Deanston, the illustrious originator of the present system of "Thorough Drainage," is said to have asserted that the waste of one man for a year, suffices to manure half an acre of land, and in Flanders we are told that the manure from such a source is valued at 9.00 per annum.

We shall err on the safe side if we assume the agricultural value of the exuviæ of each inhabitant to be $5.00 per year. It is easy then to understand that on an ordinary sized farm, which supports a family of five to ten persons, an annual loss of material may occur to the amount of from $25 to $50.

But the real loss is not merely the value of the fertilizer itself; to this we must add the profit which might be made from the crop grown by the help of the manure.

I fully believe that the night-soil produced annually by a family of 10 adults, may be made to yield here, as it certainly does in Flanders, a clear profit of $100.

This is certainly no unimportant item in agricultural practice, and our best farmers are bestowing upon it the regard it deserves.

If we have once persuaded ourselves that this is a source of profit, we are in position to be benefitted by knowing how it can

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best be made available. We find by studying the practice of those nations which employ night-soil, advantageously, that a certain amount of care is necessary in order to get the good of it. Chemistry informs us that nothing is easier than the almost total loss of this fertilizer. When urine and fæces are mixed together at a summer temperature, they almost immediately begin to decompose; the ammonia-yielding substances they contain, at once yield ammonia which passes off into the air, and their sulphates are dissipated as sulphuretted hydrogen. This process goes on with great rapidity, and only requires a few days to complete itself.

Thus the waste of nearly all the ammonia, the most costly ingredient, is inevitable, if night-soil be left to itself a few days in warm weather.

Again, if, as usually happens, the night-soil is allowed to fall into a vault or on the surface of the ground, the urine soaks off into the soil, and carries with it, not only its own content of valuable matters, but also to a greater or less degree, washes out the fæces, and exhausts their soluble ingredients.

A glance at the table, page 62, shows that the urine is by far the best part of the night-soil, being more in quantity and of richer composition than the fæces.

It thus happens that the contents of necessaries left to themselves, as is the case ninety-nine times out of a hundred, are liable to, nay, must undergo great loss of fertilizing matters. Where, as is often practiced, other slops, dish-water, &c., are poured into the privy, the waste is still greater. As a result of these deteriorating processes, the night-soil, as found in necessaries, is greatly inferior in quantity, and vastly so in quality, to the original urine and fæces. This is evident from the analyses of the poudrettes which are manufactured from it.

During the present year, I have had opportunity to examine a specimen of night-soil taken from a large quantity collected in the village of New Canaan, and fairly representing the average quality of this substance as thus found at the beginning of winter in ordinary privies. I am indebted to Edwin Hoyt, Esq., of

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New Canaan for this sample. It gave on analysis, as taken from the heap:

Water,*	66.74 per cent.
Organic matters,†	17.68 "
Sand and insoluble matters (coal ashes),	8.59 "
Lime,	2.27 "
Soluble phosphoric acid,	.87 "
Insoluble " "	.51 "
Common salt and chlorid of potassium,	.65 "
Alumina and oxyd of iron,	2.69 "
	100.00

In the dry state we have

Organic matter,‡	53.16 percent.
Insoluble matters,	25.83 "
Lime,	6.82 "
Soluble phosphoric acid,	2.61 "
Insoluble " "	1.53 "
Alkali-chlorids,	1.96 "
Iron and alumina,	8.09 "
	100.00

Compare these figures with those on page 60, representing the composition of dry fæces and urine. We see, in fact, that the ammonia is but half as much as in the dry matter of fæces, and one-seventh as much as in that of urine.

Phosphoric acid indeed is present in about the same percentage, but the waste of ammonia and of alkalies (24 percent of alkali-chlorids exist in the dry matter of urine) proves that 100 parts of the dry night-soil coming from the necessary, are but the residue of 500 to 1000 parts of the dry matter of fresh night soil that has been fermented and leached.

The night-soil collected then in villages and cities, may (as in this case) undergo a loss of 80 to 90 percent in quantity, and a large additional deterioration in quality. This fact thus demonstrated by analytical figures that cannot be called in question, explains why many practical men place so little value on this fertilizer, because when left to itself, and only removed from the vaults once a year, it amounts to little more than a noisome slop, chiefly made up in fact, as well as in appearance, of papers, cobs and sticks.

*Here must be included a quantity of carbonic acid and sulphuretted Hydrogen, set free by oxalic acid, employed to fix the ammonia during evaporation to dryness.

†Containing potential ammonia 87 percent.

‡Yielding potential ammonia, 2.61 percent.

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The above figures also prove that those whose ideas of the value of night-soil are formed from the analyses of the fresh article, are wofully deceived when they supply the refuse of city privies to their field.

Now let us study the best methods of saving this material, so precious when new, so liable to become nearly worthless when left to itself.

We want something to mix with night-soil that shall completely absorb the liquid, for the urine is the best part of it, and completely retain the ammonia that shortly forms by its fermentation. We want something that is cheap, and requires no great knowledge or skill in its management.

So far as I can form an opinion, peat or swamp-muck is the best thing for our purpose. There is scarcely a farmer in the State that cannot get it cheaply.

How to use it, is the next question. The well dried and pulverized, i. e. not over-coarse peat is simply put in the privy, so that the night soil shall fall upon it, and from time to time, (daily in warm weather,) be intermingled and covered with it.

The privy itself, which ought to be by the way, for other reasons, a spacious, comfortable and well kept place, should not be put over a vault or big well, but the earth-floor which catches the night-soil should be level or but slightly lower in the rear than the ground. A good space, as well in length and breadth as in height, is needful to admit the requisite—somewhat large—quantity of peat.

To afford this room, and at the same time to shelter the compost, a shed or lean-to, might be profitably attached to the rear of narrow privies. A cart-load or several, according to the amount of night-soil to be manufactured, is deposited at once as we begin the manurial year, in the privy, and an abundant supply is kept close at hand, and constantly, or as the weather demands, as much should be added as the urine will saturate. The solid matters should be, while fresh (once a day in warm weather) well mixed in with the muck, so that the hoe may be hauled through any part of the mass and come out clean. This done, there can be no loss of any account by evaporation. The mixture only needs to be kept sheltered in order to prevent any by

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washing. As the mass accumulates, it may be removed—a cleanly, decent job—and applied directly to the garden, or better piled up with more muck into a compost heap, a heap which shall receive all the chamber and kitchen refuse, all bones, vegetable tops, and the dead stalks and litter from the garden. If stable dung and litter is capable of making twice its bulk of peat into good manure, there is no reason why night-soil may not "sweeten," and bring into good condition ten times its bulk of the same or any other waste vegetable matters. If the heap at any time show too much heat, or smell in any suspicious degree, give it an extra cover of muck, or drench it well with soap-suds or even well-water. Wet, cold and compactness resist fermentation. It wont do to attempt getting the "virtue" out urine by straining or filtering it through soil or muck, because, if the urine be fresh it will run through nearly as good as it went in, if otherwise, the salts will be but poorly retained at the best.

This programme makes indeed a good deal of work, muck is to be hauled, a shed to be built, and somebody must fork over the stuff every day; but it will pay, there is no doubt of that. The work will not be offensive, the compost will be rich, the privy itself will be a place not to be abhorred.

The following interesting extract from Liebig's "Letters on Modern Agriculture," will serve to show in what estimation night-soil is held among the Chinese, a nation whose remarkable agriculture—which feeds a denser population than exists in any other country—depends for its success on the use of the material we have just been considering.

"It is quite impossible for us in Europe to form an adequate conception of the great care which is bestowed in China upon the collection of human excrements. In the eyes of the Chinese, these constitute the true sustenance of the soil, (so Davis, Fortune, Hedde, and others tell us), and it is principally to this most energetic agent that they ascribe the activity and fertility of the earth.

"The Chinese, whose house is still, what it most probably has ever been, a tent, only that it is built of stone and wood, knows nothing of privies as we have them in our country; but, in their stead, there are found in the principal and most comfortable part

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of his dwelling, earthenware tubs or cisterns, most carefully constructed of stone and lime; and the notion of utility so completely prevails over the sense of smell, that, as Fortune tells us ("The Tea Districts of China and India," vol. I, p. 221), "what in every civilized town of Europe, would be regarded as a most intolerable nuisance, is there looked upon by all classes, rich and poor, with the utmost complacency, and," he continues, "nothing would cause greater surprise to a Chinese than to complain of the stench arising from these receptacles." The Chinese do not disinfect this manure, but they are perfectly aware that it loses part of its fertilizing power by the action of the air; and they therefore take great care to guard against evaporation.

"Except the trade in grain, and in articles of food generally, there is none so extensively carried on in China, as that in human excrements. Long clumsy boats, which traverse the street-canals, collect these matters every day, and distribute them over the country. Every Coolie who has brought his produce to market in the morning, carries home at night two pails full of this manure on a bamboo pole.

"The estimation in which it is held, is so great, that everybody knows the amount of excrements voided per man in a day, month, or year; and a Chinese would regard as a gross breach of manners, the departure from his house of a guest, who neglects to let him have that advantage to which he deems himself justly entitled in return for his hospitality."

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ADDRESS

OF

HON. ALVAN P. HYDE.

DELIVERED BEFORE THE CONNECTICUT STATE AGRICULTURAL SOCIETY, OCT. 14TH, 1859.

At 11 o'clock the Hon. ALVAN P. HYDE, of Tolland, delivered to a numerous audience the following address:—

Mr. President and Gentlemen of the Society,—The present condition and future prospects of Connecticut Agriculture, is a subject which has long demanded, and for the past few years, has to a considerable extent engaged the serious attention of thinking men in all parts of our State. To unite and concentrate the efforts of the friends of agricultural improvement, was the main object which led to the formation of this Society. It was hoped that a central organization, acting in harmony with the auxiliary local societies, by bringing together men of kindred minds from the different counties, who were earnestly engaged in the same enterprise—thus furnishing an opportunity for a free interchange of opinions and facts, and a comparison of results—would tend to produce uniformity in our efforts; would stimulate and encourage those already interested, while it would awaken a spirit of emulation and inquiry among our citizens generally. That these hopes were not in vain, that the time and money which have been devoted to this object have not been mis-spent—the Exhibition of this year fully proves. When we remember that this is but the Sixth Annual Exhibition of our Society—that it has received little encouragement in the way of pecuniary assistance at the

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hands of our State Legislature, and that whatever has been done, has been accomplished solely by the energy and public spirit o the officers and members of this Society—well may we be proud of the success that has crowned our efforts.

But the evidence of the good effects which have resulted from the organization of agricultural societies amongst us, is not confined to the quality and variety of the articles exhibited on these grounds. It is to be found in almost every section of our State, in the evident improvement of farms, farm-buildings and fences—in increased crops—in the character and quality of the stock that is raised—as well as in the productions of the garden and orchard. Within the last few years, there has been a visible change for the better in Connecticut husbandry, and this is due in a great measure, to the increased interest which has been awakened in the minds of our citizens through the operation of these societies. I trust that this first step which our State has taken, is to be followed by a rapid progress in the same direction.

There is no State in our Union, whose agricultural interests require to be fostered and encouraged more than our own, for in none have they been more sadly neglected. That the system of cultivation pursued by our fathers in New England was vicious—I mean by reason of its effects upon the present generation—is universally admitted. Yet they adopted it, *not* from any want of intelligence, or because they did not understand their own immediate interests, and they persisted in it not from any lack of enterprise. The results they accomplish in other fields of labor forbid that we should accuse them of either ignorance or folly, its adoption was the natural consequence of the situation in which they were placed. They found here a vast territory, made rich and fertile by nature, ready for their occupation. To produce plentiful crops it needed no fertilizing—all that was required was to plough the ground, sow the grain, and reap the harvest. To accomplish this, there was little demand for energy or enterprise and it required but little labor or skill, and but a slight investment of capital to produce food sufficient for their wants. They found it more profitable to remove to other lands, than to attempt to renew the fertility of their old fields, when their strength had once been exhausted by crops. To them, land was

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the cheapest of all property, as it is to-day, in some portions of our country—so cheap that its fertility scarce adds to its marketable value.

While agriculture thus naturally became in the estimation of our fathers a matter of secondary importance, all the other wants of the inhabitants of this country—the necessaries, the comforts, the luxuries which civilized society requires, were either to be supplied here by their enterprise and skill, or transported from distant countries. In these departments of industry there was an immediate, urgent, pressing demand for the exercise of all their intelligence, energies and capital, and that too with the promise that success should be most liberally rewarded. Hence it is that in New England, especially, manufactures and commerce have ever been the favorite pursuits of our people, and have also been the most remunerative. In these, New England fortunes have been made, and in these chiefly, New England capital has been employed. With her innumerable streams of pure and never failing water, less affected by freshets or drouth than in any other portion of our country, furnishing a cheap and constant motive power for mills and manufactories in almost every valley, and with her extensive sea-board containing numerous and safe harbors, easy of access, both by sea and land, New England possesses natural facilities for engaging in manufacturing and commercial pursuits unequalled in any part of the globe. And if we bear in mind the fact that the investment of capital and the application of labor are always controlled by the prospect of a profitable return, we can hardly be surprised that our fathers devoted their constant and unceasing efforts to the development and improvement of these natural and peculiar advantages to the neglect of their agricultural interests.

Under these circumstances the system of cultivation they adopted was that of depletion, impoverishment and abandonment.

Connecticut is one of our oldest States, and like most of the old States was early subjected to this exhausting process. A large proportion of the surface of our State has been thus treated. And oftentimes the fathers and more frequently their sons, who have chosen to follow the occupation of their fathers, have left the old worn-out fields—turned their backs on the old homestead, and

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emigrated to other States, where the land was richer, and had not been cursed by a vicious system of cultivation. These sons of Connecticut are now scattered through every State from our Eastern border to Minnesota. While the causes which produced this state of things continued to operate, as they have continued until a very recent period, it would have been idle for us to anticipate that capital could be diverted to any considerable extent from the channels in which it was employed to be applied to the improvement of our land—and until within a few years past, no serious effort was made to stop this growing evil, for no absolute necessity required it. The decrease in our own productions, as well as the increased demand occasioned by our increase of population, were readily supplied from the abundant crops of these new agricultural States, and at a reasonable cost. So long as sufficient food could be furnished us at a moderate expense, there was no necessity that other branches of industry should languish or their progress be materially retarded. Nor have they done so. From 1840 to 1850 our population increased about 20 percent, though our agricultural productions materially decreased during the same period. Our next census will doubtless show that our increase in population during the past ten years has been equal to that of the ten years immediately preceding, though I trust it will also show that we have to some extent, at least, increased our means of supporting them. Connecticut is rich and prosperous to-day compared with our sister States. The attention of our citizens has been directed to other pursuits to the neglect of this, the most important of all, and their energy and enterprise have made us rich and prosperous, as we are in spite of this neglect. But it must be evident to all, that our progress would have been much more rapid and satisfactory to ourselves, had the money which has been sent abroad for the purchase of food for our own use, been paid out to the farmers of our own State; and by them been expended in improving their farms. I believe that during the last twenty-five years, money enough has been paid to other States. by citizens of Connecticut, for this purpose alone, which if it had been expended in the improvement of our own land, not only would have enabled us at the present time to produce enough for the support of all our inhabitants, but also leave a large

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surplus for exportation; and yet, the soil of our State is so poorly cultivated, notwithstanding the improvements that have been made during the past few years, that if we were to be deprived of the supplies of food we are constantly receiving from other States, a famine would prevail throughout our borders.

For several years it has been apparent that we could not always depend upon these new States, and that we must increase the production of food at home, or cease to grow in wealth and population. Every year the sources of our supplies are being removed farther and farther from us. To the original cost paid to the producer, we are obliged to add the expense of transportation to our doors. Already the price of certain articles of daily consumption has been seriously enhanced, and I can see no good reason why all others must not soon follow in their wake. Heretofore the Western farmer has been able to obtain his land for a nominal sum, and of such extraordinary fertility, that large crops could be raised with little outlay of capital or labor. New inventions in agricultural implements and machinery, facilitating the planting, reaping and threshing of grain, have enabled one man to perform the work which before required the labor of many. Under these circumstances he could afford to sell his products so low that the Eastern farmer could not hope to compete with him. Having no home market, he has been ready to sell at whatever price he could get. Competing lines of railroads, steamboats and canals, established by Eastern capital, have been willing to transport his products to an Eastern market at rates ruinous to themselves.

These causes combined have supplied us with our grain at such moderate prices, that we have seemed to forget that there was any necessity of our attempting to raise our own, or any danger that it would not always last. But it cannot last. The limits of this fertile territory have already been reached, and it is being rapidly filled by the ceaseless tide of emigrants, from the East, and the old world, who are there establishing their homes. The barren hills and plains beyond the Mississippi, dam up this tide and turn it back upon itself. Not only are our Eastern cities, towns and villages rapidly growing—thus increasing the demand by the increased consumption—but manufacturing villages, large

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towns, and populous cities, are daily springing up through our Western States, which will soon furnish them with a market at their own doors. In addition to this, the same system of farming that our fathers practiced here, is now being employed in the West on a gigantic scale. If the present system is continued, their steam plows, reaping and threshing machines, must exhaust their soil with a rapidity that will speedily reduce it to a level with that of many of our oldest States. And it doubtless will be continued till the Western farmer shall be able to sell his produce at a price that will remunerate him for the additional expense he must incur in restoring to his fields that fertility of which he is now annually depriving them. With their lands advancing in price, though decreasing in intrinsic value, coupled with the necessity of enriching them with fertilizers, a bushel of grain in Illinois must soon represent a larger outlay, both of capital and labor, than it has heretofore done. With a diminishing production and an increased home demand, it will command a price proportionate to the cost of its production. The day must soon come, when, if we continue to rely, as now, upon the West for our supplies, the prices of provisions will be enhanced to such an extent as will be ruinous to our manufacturers, as well as to all other branches of business in which we are now engaged.

Upon whom then can we rely for our future supplies? I answer, upon you—farmers of Connecticut, and upon you alone. If Connecticut is to maintain her present position of prosperity, it is absolutely necessary that the work of agricultural improvement, which has been commenced, shall be pressed forward until Connecticut agriculturists shall stand as high as Connecticut manufactures now stand. Our capitalists, merchants, and manufacturers—all classes of society, are immediately and directly interested in this result, and are bound, as they value their own personal prosperity, to furnish all the aid in their power, and to countenance and encourage every measure which will tend to hasten our progress in this direction.

Aside from the fact that it will eventually become a matter of necessity that our State shall raise a sufficient quantity of those products congenial to our soil and climate to supply the wants of our own inhabitants, there are other considerations which ren-

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der it important that as a State we should offer every encouragement to this branch of industry. It is far better for us as a community that our population should be scattered over our whole territory, and a reasonable proportion be engaged in tilling the soil, than that they should be congregated in cities and large villages, and our country-towns be comparatively deserted. Although man is a social being, it by no means follows that the crowded work-shop, or the thronged street is best calculated for his mental, moral, or physical development. Complete physical development is oftenest found in the green fields and pure air of the country. When deprived of these, men physically degenerate. The mental and physical character of the inhabitants of our cities would rapidly deteriorate, were it not that they are strengthened and invigorated by the constant recruits they are drawing from the country. There is ever flowing from the country to the city, a steady stream of young men, who, dazzled by visions of future wealth and honor, forsake the honest callings of their fathers for the trials, struggles, and temptations of a city life. There is also a counter-current flowing back again, though less in extent, and consisting in a good measure of men who, enfeebled by confinement or overtaken by a premature old age, seek in the quiet seclusion and pure atmosphere of the country, that health and happiness they have failed to find in the city.

So too, men degenerate morally when congregated in large bodies, for there, vice and crime find countenance and encouragement. Human depravity, like many kinds of disease is exceedingly contagious. The seeds of moral disease planted in us by Nature need but a polluted moral atmosphere to cause them to spring into active life. The gambling-saloons, brothels and other dens of infamy, with which our cities and large villages abound, are the running-sores where this festering depravity breaks out, contaminating and polluting all who approach them. It is true that bad men are to be found in the country as well as in the city; but, isolated as they are, without the encouragement or protection of those who sympathize with them, and with the finger of scorn pointed at them in the community in which they live, their example serves rather as a warning than a temptation to others.

Mr. President,—The work in which you and the other friends

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of this Society are engaged—the attempt to raise Connecticut husbandry to its proper level, and to fully develope the capacity of our soil to reward labor—is one which it will require much time and effort to accomplish. The seed you have sown has just begun to sprout, and must be cherished and nourished with exceeding care, if we would reap a harvest of success in the future. Farmers are proverbially slow to change, and are peculiarly jealous of all attempts at innovation. They are too apt to look upon their occupation as a mere art, handed down to them from their fathers in its perfection, and in which there is nothing to be learned except the mere manual skill to perform its labor.

What we are most in need of is, a better agricultural education —an education which shall enable us not merely to understand mechanical rules and established practices, but the reasons upon which those rules and practices are founded.

Labor is the chief source of national and individual wealth, and the more intelligence we can infuse into it, the greater will be the returns it will make. Science has contributed greatly to the improvement of every art and branch of industry which administers to the wants of man, and there is no art which for its prosperity and success, is more indebted to science than that of agriculture—and none which more earnestly demands its assistance in the future. Farming must be reduced to a regular system, so that like law, medicine and mechanics, it may be studied by those who would engage in it, both practically and theoretically. It must be interwoven with our system of education, and taught as distinct branch of study in our schools. No good reason can be given why the same course should not be pursued by one who desires to excel as a farmer, as is pursued by the lawyer, physician, or mechanic. Why, before he undertakes the management of a farm, with its complicated duties and interests, should he not become thoroughly acquainted with the principles of his profession, and with those natural laws upon whose operations his success wholly depends? I, by no means, intend to disparage the importance of practical knowledge and personal experience in an art so practical as this. Without these, the knowledge acquired in schools would be of little use. Yet a knowledge of the constituent parts of the soils he wishes to cultivate, of their combin-

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ations, and the elements of fertility they may lack, of the chemical composition of the plants he wishes to raise, of their habits and the food they require, with the same personal experience, must give its possessor a great advantage over those less informed —not only in guarding against failure in the ordinary operations of the farm, but especially in enabling him to devise and adopt new and improved modes of culture. That knowledge is power, is as true here as it is every where.

Nor is it in schools alone that the education requisite to success can be acquired. Our country abounds in agricultural treatises and periodicals, placing within the reach of every farmer the means of acquainting himself with everything which science has taught. So, too, the operations of a Society like this are of the highest importance as a means of disseminating valuable information, by exhibiting the practical results of different systems of cultivation, new varieties of seeds and plants, and the various kinds of stock and horses that are daily being introduced.

This is eminently a practical age, as well as an age of progress. The duty which men of learning and science owe to society to reduce their knowledge to practical rules, so that they may be grasped and used by their fellow men—is fully felt and acknowledged. It is now a conceded fact that there is no law of nature, which, when once discovered and understood, cannot be made of practical use to mankind. Men of science may pursue their investigations in the seclusion of their own laboratories while searching out some new and hidden law of nature, but they receive little credit till they also show how it may be made available in promoting the welfare of their fellow men. When this is done, we pronounce them benefactors of our race. And to-day that curious provision of nature which causes the seed to sprout, and the plant to grow—the laws that govern the growth and nourishment of plants and animals—the wants and fitness of different kinds of soil for the production of different kinds of grain, and the composition and relative value of different kinds of manure are receiving the constant, and might almost say, the undivided attention of some of most learned and skillful chemists. As they publish their discoveries to the world, the

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value of their suggestions are being tested by practical farmers, who here exhibit to us the results of their experiments, so that all may see and know their value, and follow such as are worth following.

I know it is sometimes claimed that book farming as it is called, does not always pay—that those who adopt it and attempt to conduct their farming upon scientific principles have a propensity to try new experiments, and oftentimes with serious loss to themselves. That this is frequently so, I do not doubt, nor would I have it otherwise. Most of the improvements that have been introduced in the useful arts during the last century, have been the result of experiments—and if no experiment was ever tried till we were sure of a favorable result, our progress would be slow indeed. It seems to be a law established by our Creator, that all human progress shall be gained at the expense of individual sacrifices. It has long been truly said that "the blood of the martyrs is the seed of the church"—and we know, that in all ages the tree of liberty has been most bountifully watered by the blood of patriots. This same law holds true in relation to our progress in the peaceful arts and sciences. The history of the past is replete with instances where the promulgation of the discovery of some new law of nature has brought its author to poverty and disgrace, and sometimes even has subjected him to personal danger and and imprisonment—where inventors have died in poverty and neglect, while their inventions have added greatly to the wealth and prosperity of those who have succeeded them. But agricultural experiments generally require little outlay of capital and seldom entail a ruinous loss. They are more easily and readily made than any other art,—even when they are a failure, our labor is not wholly lost.

Human knowledge is the result of the lessons taught by human experience, and oftentimes the lessons taught by our failures are of more value than those to be learned from our successes. Those men possessed of wealth and education, who are devoting their money, time and energies to this work, merit all honor and praise at our hands. They are attempting to elevate and improve that art which is the mother of all other callings and pro-

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fessions—the one upon which they all rest and depend for existence—the one which, as it is the the oldest of all human employments, is the most honorable of them all. One of the brightest auguries of our future success is to be found in the fact that the jealousies of our farmers are gradually fading away before the light of science. They are beginning to appreciate the value of the information to be acquired in our scientific schools that are being established among us. They are awakening to a sense of the dignity and importance of their calling, and are more ready to receive and act upon any suggestion that promises to improve their condition or render their business more profitable or more honorable.

It is only by directing all our enterprise and intelligence actively and earnestly to this work with the advantage of all the helps which science and experience can furnish us, that we can renovate the agricultural interests of our State. Our hills are steep, and rough, and rocky, and much of the best of their soil has been washed into the valleys, and the riches of which they have been robbed, for the most part, there lie unused and unproductive in the swales, and swamps, and marshes with which our State abounds. We must restore to our hillsides the elements of fertility of which they have been deprived, while these swales, and swamps and marshes are to be reclaimed and made the best of all lands by thorough underdraining and careful tillage. In this way, these waste places may be made to produce abundant crops of the best of English grasses, and the rocks upon our hills will be fringed with rich pasturage and surrounded by luxuriant fields of grain.

It is true this will require us to invest capital liberally upon our land in addition to the first cost of the land itself; but does not every other kind of business demand our whole time and attention, and the continual investment of capital, to make it profitable? The manufacturer is daily expending his income in replenishing his stock of raw material, in supplying the place of his worn-out machinery with new, and in adding to his establishment every new invention and improvement calculated to increase the quantity or improve the quality of his productions;

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otherwise his career would soon end in bankruptcy and ruin. The capital of a farmer invested in his farm is of two kinds,—his land and its fertility. Fertility is his floating working capital, and bears the same relation to his land as the goods of the merchant do to the store that contains them, or the machinery of the manufacturer to his mill. The manufacturer who should refuse to repair or replace his machinery, as it becomes old and worn out, would soon find his mill would not pay for running, and the merchant who should neglect to replenish his stock of goods, would soon find his store with its empty shelves not worth the tending; and a man who would so conduct himself, would be regarded as one who needed the care and supervision of a conservator.

Yet there are many men, even now, who yearly and systematically convert everything they can spare from their farms into money, and return no part of it in the shape of fertilizers. Such men are robbing their business of its active working-capital, and their land soon becomes like the mill with its machinery worn out, or like the store with its empty shelves. The bushes encroach on the fields; the fences fall to decay; the buildings are suffered to get out of repair; and the sons and daughters are but too glad to turn their backs on so unpromising a spot.

I verily believe that if our farmers would as freely invest capital in improving their farms, and would direct as much care and attention to their management as is done by our other citizens in the management of their business; they would, taking one year with another, receive better interest on their investments than is obtained by either our merchants or manufacturers; that the man who has an hundred acres of land from which he can now glean but a bare sustenance, would get a far better return for his capital and his labor if he would sell one-half, and carefully invest the proceeds in enriching and improving the remainder.

Let us clear up, new fence, and fertilize the old fields; introduce stock of which we may be proud for their beauty, as well as their value, repair the buildings, and surround them with shade trees; fill the garden and orchard with fruit, and the yard with flowers; make the farm more attractive as well as productive:—

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in a word, make the old homestead what it ought to be: a home in fact; a place around which the affections of the family will cluster, a place to be admired and not to be despised; and we will hear less of emigrating to other States; and there will be fewer vacant seats around the family board at our Thanksgiving gatherings. The man who pursues this course, not only has his capital invested in his business, but he is beyond the reach of all commercial convulsions, and has no need to fear a financial crisis. He has his money invested in a bank which will honor all his drafts; if he properly presents them at seed-time they will be duly accepted, and at the harvest fully paid. He is acquiring an inheritance for his children far better than any money or any stock he can leave them.

Though we are now compelled to struggle with a hard and reluctant soil, our location is not without its advantages. We are blessed with pure air, pure water, and a healthy climate. Along the streams in our valleys are clustered manufacturing villages which furnish us with the best of a home market at our very doors.

It is through our manufacturers alone that we are able to draw wealth from other States to our own, for there is scarce anything else than their productions which we send abroad to sell. They are causing a constant golden stream to flow in upon us, which is compelled almost as constantly to flow out again to purchase the food they need. If our agriculturists will do what they ought, and most easily can do, and what I hope they soon will do—raise from our own soil enough to supply this home demand—then this outward drain will immediately cease, and this golden current will be turned into the pockets of our own citizens, adding rapidly to the wealth and prosperity of our State.

As a means calculated to exert a powerful influence in exciting an interest upon this subject in the minds of our people, and in hastening the accomplishment of this desirable result, this society deserves the active and earnest co-operation, not merely of our farmers, but of all classes of society. I trust the time will soon arrive when the annual meetings of this Society shall be looked upon by every citizen as the great holiday of our State—as a time once in every year, when the inhabitants of all our towns shall lay aside the implements of their daily labor, and

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leaving behind as unworthy the place and the occasion, all sectarian feeling, all party spirit, and all local jealousies, here assemble on common ground to celebrate the triumphs of our citizens in the peaceful arts—the victories Connecticut skill and energy have achieved on Connecticut soil—to celebrate the agricultural independence of our State.

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REPORTS OF JUDGES,

AND

Awards of Premiums,

AT THE

STATE FAIR IN NEW HAVEN,

1859.

CLASS I.

Cattle.

COMMITTEE NO. 1.—SHORT HORNS.

Bulls, three years old and upwards.

Thomas Cowles, of Farmington, "Prince of Orange," first premium,..... $20
A. H. Beach, Merwinsville, "Belvidere," second premium,..... 10
T. A. Mead, Greenwich, third premium,..... 8

Two Years old and under.

A. H. Beach, Merwinsville, "Duke of Ashgrove," first premium,..... 15
Linus Birdsey, Meriden, "Sachem," second premium,..... 10

Calves.

P. B. Tyler, West Haven, first premium,... 2
A. H. Beach, Merwinsville, "Mayduke," second premium,..... 1

Cows, three years old and upwards.

A. H. Beach, Merwinsville, "Belle 2d," first premium,..... 20
Thos. Cowles, Farmington, "Moss Rose," second premium,..... 10
A. H. Beach, Merwinsville, "Myrtle 2d," third premium,..... 8

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Heifers, two years old.

Thos. Cowles, Farmington, "Beauty," first premium,..... $15
A. H. Beach, Merwinsville, "Belle 4th," second premium,..... 10

Yearling Heifers.

A. H. Beach, Merwinsville, "Bessie Belle," first premium,..... 10
John Giles, Woodstock, "Ruby," second premium,..... 8
Thos. Cowles, Farmington, "Pride of the Meadow 3d," third premium,..... 3

JOHN BISSELL,
JOHN STEDMAN,
B. SUMNER, } Committee.

NO. 2.—DEVON BULLS.

The undersigned, the Committee of Judges on Devon Bulls, having attended to that duty, respectfully report that all the classes of that stock submitted to their inspection exhibited great merit, and that the improved condition of the young animals presented, gave evidence of a careful attention to the requirements necessary for pure and judicious breeding. The undersigned also decree the following awards:

Three Years old and upwards.

Lewis A. Thrall, Torrington, Bull "Hero," first premium,..... $20
Linsley Brothers & Co, West Meriden, Bull "Hiawatha," second premium,... 10
B. H. Andrews, Waterbury, Bull "Hannibal," third premium,..... 8
James A. Bill, Lyme, Bull "Nero," discretionary,..... 8
David Beecher, Huntington, Bull 3 years, discretionary,..... 5

Two years old.

D. W. Grant, Bloomfield, Bull "Charter Oak," first premium,..... 15
Stanley Griswold, Torringford, Bull "Bobolink," second premium,..... 10
James J. Webb, Hamden, Bull "Albert," third premium,..... ... 3

One year old.

N. B. Smith, Woodbury, first premium,..... 10
Levi Coe, Middletown, second premium,..... 8
Stanley Griswold, Torringford, Bull "Nero," third premium,..... 3

Bull Calves.

John Tillotson, Farmington, Calf "Champion," first premium,..... 3
S. & L. Hurlbut, Winchester, Calf "Prince," second premium,..... 2

JOHN GILES,
LEVI COE, } Committee.

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NO. 3.—DEVON COWS.

Your Committee beg leave to report that after a patient and diligent examination of the forty-six animals presented for their judgment, they have awarded as follows:

Three years old and upwards.

S. & L. Hurlbut, Winchester, Cow "Lovely," first premium,..... $20
B. H. Andrews, Waterbury, Cow "Gipsy Maid," second premium,..... 10
Stephen Atwood, Watertown, Cow "Daisy," third premium,..... 8

Two years old.

James A. Bill, Lyme, Heifer "Fancy," first premium,..... 15
S. & L. Hurlbut, Winchester, Heifer "Horn," second premium,..... 10
John Tillotson, Farmington, Heifer "Nellie," third premium,..... 3

One year old.

S. & L. Hurlbut, Winchester, Heifer "Kate," first premium,..... 10
Hezekiah Tillotson, Farmington, Heifer "Rosette," second premium,..... 8
Stanley Griswold, Torringford, "Hetty 2d.," third premium,..... 3

Heifer Calves.

Stanley Griswold, Torringford, first premium,..... 3
Joseph M. Munson, Watertown, Calf "Kate," second premium,..... 2

Your Committee feel that too much was required of them to discriminate where so many animals were so deserving and worthy, not one inferior animal being presented. No animal was offered that the owner may not well take pride and pleasure in. All of which is respectfully submitted.

JOHN F. BEARD,
BIRDSIE B. PLUMB,
J. T. NETTLETON,
} Committee.

NO. 4.—HEREFORDS, AYRSHIRES & ALDERNEYS.

ALDERNEYS.

Donald G. Mitchell, New Haven, Alderney Bull, 3 years old, first premium,.. $15
Dr. E. Bently, Norwich, Bull "Rampant," 1 year old, first premium,..... 8
John Giles, Woodstock, Cow "Buttercup," 5 years old, first premium,..... 15
Dr. E. Bently, Norwich, Heifer "Lactania," first premium,..... 10
Dr. E. Bently, Norwich, Bull Calf, first premium,..... 3
H. J. Burghardt, West Stockbridge, Mass., Ayrshire Bull, 2 years old, disc. prem. 10

WM. H. PUTNAM,
WM. BILLINGS,
WM. BERKELE,
} Committee.

A fine show of Imported Ayrshire stock was made by Mr. Chas. F. Pond of Hartford, for exhibition only.

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NO. 5.—GRADE SHORT HORN COWS.

Three years old and upwards.

A. Hamilton, West Hartford, first premium,..... $15
B. C. Lake, New Haven, second premium,..... 10

Two years old.

B. C. Lake, New Haven, first premium,..... 10
Orrin Todd, North Haven, } second premium divided, { 4
Timothy Fowler, Union. } { 4

One year old.

M. H. Griffin, Middletown, first premium,..... 8
Wm. A. Wolcott, Lakeville, second premium,..... 5

Heifer Calves.

B. C. Lake, New Haven,..... 3

Discretionary.

Henry Mather, Hamden, Herd of 18 Cows,..... 5

THOMAS COWLES, Chairman.

NO. 6.—GRADE DEVON COWS.

Three years old and upwards.

Lauren Tyrrell, Woodbury, first premium,..... $20
James A. Bill, Lyme, second premium,..... 12
Stanley Griswold, Torringford, discretionary,..... 5
M. H. Griffin, Middletown, discretionary,..... 5
B. C. Lake, New Haven, discretionary,..... 5

Two years old.

Howard Kellogg, New Hartford, first premium,..... 15
Levi Coe, Middletown, second premium,..... 10
James A. Bill, Lyme, discretionary,..... 3
Nelson Tyler, West Haven, discretionary,..... 3
Solomon Tyrrell, Westville, discretionary,..... 2

One year old.

Levi Coe, Middletown, first premium,..... 12
C. B. Smith, Wolcottville,..... 8

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Heifer Calves.

James A. Bill, Lyme, first premium,..... $5
Stanley Griswold, Torringford, discretionary,..... 2

Discretionary for Bull.

Howard Kellogg, New Hartford,..... 5
Eli Goodrich, Branford, Bull Calf,..... 3

JOHN C. AMBLER,
THOMAS GATES,
DAVID BEECHER,
} Committee.

NO. 7.—NATIVES.

Cows, three years old and upwards.

Henry Mather, Hamden, first premium,..... $15
A. S. C. Cook, Westville, second premium,..... 10
Calvin S. Barnes, Salisbury, third premium,..... 5
James A. Bill, Lyme, discretionary,..... 5

Two years old.

Charles W. Blakesley, New Haven, second premium,..... 5

Heifers, one year old.

Orrin Todd, North Haven, first premium,..... 8
David Cook, New Haven, second premium,..... 4

Heifer Calves.

Justus Peck, Bethany, first premium,..... 3

Bulls, three years old and upwards.

Justus Peck, Bethany, first premium,..... 15

One year old.

Wm. M. Hart, Madison, first premium,..... 8

Bull Calves.

James A. Bill, Lyme, first premium,..... 3

ASA HUBBARD,
CHAS. T. CHATFIELD,
S. G. TIBBALLS,
} Committee.

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NO. 8.—WORKING OXEN.

Six years old and over.

John Barnard, Hartford, first premium,..... $15
Middlesex Quarry Co. Portland, second premium,..... 10
" " " " third premium,..... 8
Richard W. Griswold, Torringford 4th best pair, 7 years, fourth premium,.... 4

LEWIS A. THRALL,
O. HICKOX,
S. MEAD,
} Committee.

NO. 9.—WORKING OXEN.

Five years old.

Middlesex Quarry Co., Portland, first premium,..... $15
Horace Hart, New Britain, second premium,..... 10
N. B. Smith, Woodbury, third premium,..... 8
Augustus Hamilton, West Hartford, fourth premium,..... 4

GEO. OSBORNE,
THOS. MEAD,
DANIEL WILLARD,
} Committee.

NO. 10.—WORKING OXEN.

Four years old.—Devon Grade.

Alexander Hamilton, West Hartford, first premium,..... $12
Stephen Atwood, Watertown, second premium,..... 10
Richard W. Griswold, Torringford, third premium,..... 8
John Carter, Litchfield, fourth premium,..... 5
N. B. Smith, Woodbury, fifth premium, ... 4
Lauren Tyrrell, Woodbury, sixth premium,..... 3

JOHN HUBBARD,
JOSIAH HAMMOND,
JOSEPH H. PORTER,
} Committee.

NO. 11.—WORKING OXEN.

Four years old.

J. C. Luce, Newington, first premium,..... $15
Scovill L. Atwood, Plymouth, second premium,..... 10
Benj. Webster & Son, Litchfield, third premium,..... 8
David Beecher, Huntington, fourth premium,..... 5

JOHN BARNARD,
H. TUCKER,
C. H. MASON,
} Committee.

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NO. 12.—STEERS, DEVON GRADE.

Three years old.

Your Committee have attended to the duties assigned them, and report as follows, viz: There were exhibited for premiums, seven pairs of three years old Steers, which were all of very fine quality, and were all well worthy of premiums, but as your committee were confined to but three premiums, they award to

Levi Coe, Middletown, first premium,..... $10
Benj. Webster & son, Litchfield, second premium,..... 5
John T. Phelps, Bloomfield, third premium,..... 3

Two Years old.

James J. Webb, Hamden, first premium,..... 5
James A. Bill, Lyme, second premium,..... 4
James A. Bill, Lyme, third premium,..... 3

One year old.

Levi Coe, Middletown, first premium,..... 5
James A. Bill, Lyme, second premium,..... 3

DAVID BEECHER,
HORACE HART,
AUGUSTUS BALDWIN, } Committee.

NO. 13.—STEERS.

Three years old.

F. W. Russell, Portland, first premium,..... $10
E. H. Hyde, 2d, Stafford, second premium,..... 5
Edward Shepard, Portland, third premium,..... 3

Two years old.

E. C. Phelps, Bloomfield, first premium,..... 5
Chas. W. Blakesley, New Haven, second premium,..... 3
Jared Gorham, Hamden, Twin Calves, first premium,..... 3
Justus Peck, Bethany, second premium,..... 2

J. N. BISSELL,
JOHN G. STEVENS,
EDWIN PALMER, } Committee.

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NO. 14.—MILCH COWS.

No cow offered has had any statement respecting her, that compares in any degree with the requirements of competitors. Therefore no statement has been made on which your committee could base their action in making awards. *We cannot award!* But are agreed in the high merits of the animals entered, and should the finances of the Society admit, it is thought best to recommend a medium premium, say not to exceed $8.00, to that entered by James Fellows, New Haven.

E. C. ALLEN,
B. K. HALL,
C. E. PLUMB,
} Committee.

NO. 15.—FAT CATTLE.

Middlesex Quarry Co., Portland, best pair Fat Oxen, first premium,..... $15
Thomas A. Mead, Greenwich, 2d " " " " second premium,..... 10
Thomas A. Mead, Greenwich, Best Ox, first premium,..... 8
Thomas A. Mead, Greenwich, 2d " " second premium,..... 5
Emory Morse, Wallingford, Best Fat Cow, first premium,..... 8
James A. Bill, Lyme, 2d " " second premium,..... 5

E. WOODRUFF, E. H.,
A. BARNES,
W. H. HICKOX,
} Committee.

CLASS II.

Horses and Mules.

NO. 16.—STALLIONS AND MARES OF ALL WORK.

Over seven years.

John Hemenway, Suffield, "Imperial Black Hawk," first premium,..... $20
George K. Peck, Falls Village, "Young Zenith," second premium,..... 15
James S. Cole, Easton, "Billy Mambrino," third premium,..... 8

Mares with Foal at foot.

Wm. J. Ives, Meriden, mare "Fanny Ellsler," first premium,..... 15
John Brown, Stafford, second premium,..... 10
Sidney Hurd, Woodbury, third premium,..... 8

D. F. GULLIVER,
W. T. BARBOUR,
P. F. BARNUM,
} Committee.

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The Sub-Committee of the Executive Committee award to T. G. Aycrigg, of Newark, New Jersey, discretionary premium for stallion "Governor Wright," thorough-bred, 7 years old, $20.

NO. 17.—STALLIONS AND MARES.

Five years and under seven years.

Jarvis Joslyn, New Haven, "Flying Cloud," first premium,..... $20
George B. Bates, New Haven, second premium,..... 15
John Atwater, Wallingford, "Hiawatha," third premium,..... 8

Mares with Foal at foot.

Samuel B. Parmelee, Wallingford, first and only premium, no competition,.... 15

JAMES D. FRARY,
S. C. BABCOCK,
L. W. COE,
} Committee.

NO. 18.—STALLIONS AND MARES.

Four years old.

F. W. Russell, Portland, Stallion, "Clarion," first premium,..... $20
M. H. Griffin, Middletown, Stallion "Gov. Seymour," second premium,..... 15
Lyman A. Work, Hartford, Stallion "Green Mountain Boy," third premium,.. 8
J. M. Munson, Watertown, mare with foal at foot, "Gifford Maid," first prem... 15

PHILEMON HOADLEY,
J. M. HUBBARD,
N. B. PHELPS,
} Committee.

NO. 19.—STALLIONS AND MARES.

Three years old.

STALLIONS.

Chas. Parker, Meriden, "Alexander," first premium,..... $15
J. H. Bennett, Washinton, "Naugatuck," second premium,..... 10
Wm. Pettibone, Meriden, "Pathfinder," third premium,..... 8

MARES.

Wm. L. Bradley, West Meriden, "Lola Montez," first premium,..... 12
Henry Hickox, Woodbridge, "Fanny Fern," second premium,..... 8

S. C. BABCOCK,
W. H. NYE,
JAMES D. FRARY,
} Committee.

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NO. 20.—STALLIONS AND MARES.

TWO AND ONE YEARS OLD.

Stallions two years old.

Henry J. Peck, Morris, "Flying Dutchman," first premium,..... $10
Wm. Hale, West Meriden, "Black Hawk," second premium,..... 5

Mares two yeurs old.

Samuel Clark, Meriden, "Meriden Maid," first premium,..... 8
M. H. Griffin, Middletown, "Dolly," second premium,..... 5

Stallions one year old.

John Yale, Meriden, first premium,..... 5
Wm. L. Bradley, West Meriden, "Leviathan," second premium,..... 4
Chas. N. Jones, Wallingford, Stallion "Tippo," 2 years, discretionary premium,. 4

Mares one year old.

B. Trumbull Jones, Wallingford, first premium,..... 5
P. B. Buckingham, Seymour, second premium,..... 3

JAMES A. WEBB,
PHILEMON HOADLEY,
GEORGE OSBORNE,
} Committee.

NO. 21.—MATCHED HORSES FOR CARRIAGE AND ROAD.

Wm. N. Wait, New Haven, (16 hands,) first premium,..... $15
Wm. J. Benton, " " " second premium,..... 10
Issac Nichols, Naugatuck, (15 hands,) first premium,..... 15
F. W. Russell, Portland, " second premium,..... 10
Jerome Holcomb, Canaan, discretionary premium,..... 5

The show of Horses in this class was very poor, no man could look upon them with any degree of pride.

JEDIAH WILCOX,
P. D. CROSBY,
GEORGE GILBERT,
} Committee.

NO. 22.—MATCHED OR FANCY MATCHED HORSES, FOR LIGHT WORK.

J. Wilcox, Meriden, first premium,..... $15
D. Phillips, Hartford, second premium,..... 10
D. C. Hill, New Haven, third premium,..... 8

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G. Gilbert, New Haven, discretionary premium,..... $10
T. G. Aycrigg, Passaic, N. J., discretionary premium,..... 10

L. W. COE,
R. N. AUGUR,
W. J. IVES,
} Committee.

NO. 23.—MATCHED DRAFT HORSES.

J. Wilcox & Co., West Meriden, 9 years, first premium,..... $8
J. W. Hine, New Haven, "Bill," 12 years, second premium,..... 5
J. G. Hine, New Haven, 4 years, third premium,..... 3
Adams Express Co., 4 horses, discretionary premium,..... 10

ISAAC THOMPSON,
PHILEMON HOADLEY,
T. C. CANFIELD,
R. N. AUGUR,
} Committee.

NO. 24.—GELDINGS AND MARES FOR FAMILY USE.

Five years old and under eleven.

The Committee on this class respectfully report that in their judgment, all of the Horses entered in this class are entitled to drawback, as per regulation for the best twenty-five horses. Your Committee make the following selection for the award of premiums:

W. H. Brown, Waterbury, first premium,..... $15
J. Joslyn, New Haven, second premium,..... 10
Wm. Smith, Stafford, discretionary premium,..... 10
E. H. Hyde, 2d " " " 5

J. F. ORCUTT,
W. T. BARBER,
L. W. COE,
} Committee.

NO. 25.—GELDINGS AND MARES FOR FAMILY USE.

Eleven years old and over.

James D. Frary, West Meriden, "Trouble," 18 years, first premium,..... $10
Wm. L. Bradley, West Meriden, "Lady Washington," 18 years, second prem.. 8
John L. Lyon, New Haven, "Lilly," 11 years, third premium,..... 5

J. W. KNAPP,
A. PEARL,
O. J. MARTIN,
} Committee.

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NO. 26.—GELDINGS AND MARES FOR FAMILY USE.

FOUR, THREE, AND TWO YEARS OLD.

Four years old.

Isaac Bartlett, New Haven, "Grey Bird," first premium,..... $10
M. H. Griffin, Middletown, "Farmer's Boy," second premium,..... 8
P. D. Crosby, Danbury, discretionary premium,..... 5
Seth S. Logan, Washington, discretionary premium,..... 3

Three years old.

H. W. Skinner, first premium,..... 8
S. L. Bristol, New Haven, second premium,..... 5

Two years old.

Charles Gabril, Middletown, first premium,..... 8

JOHN A. HEMENWAY,
P. R. CLOSE,
L. B. BROWN,
} Committee.

NO. 27.—ROADSTERS.

Jarvis Joslyn, New Haven, "Granger Horse," first premium,..... $15
Wm. J. Ives, Meriden, second premium,..... 10
W. M. Hungerford, Wolcottville, third premium,..... 8
Albert W. Knapp, Fairfield, fourth premium,..... 5
Benjamin Gilbert, Ridgefield, discretionary premium,..... 5
A. Richmond, Brooklyn, discretionary premium,..... 5

JOHN A. HEMENWAY,
A. D. BRIGGS,
B. K. BISHOP,
} Committee.

NO. 28.—MULES.

P. B. Tyler, West Haven, best pair, first premium,..... $10
E. B. Bishop, New Haven, second premium,..... 5
F. B. Barnard, West Haven, best Jack, first premium,..... 3

JAMES A. WEBB,
ISAAC THOMPSON,
PHILEMON HOADLEY,
} Committee.

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CLASS III.

Sheep, Swine and Poultry.

NO. 29.—LONG WOOLED SHEEP.

Geo. C. Hitchcock, New Preston, best Buck 3 years old, first premium,..... $8
Geo. C. Hitchcock, New Preston, 2d " " " " second premium,.... 5
Geo. C. Hitchcock, New Preston, best " 2 " " first premium,..... 5
Geo. C. Hitchcock, New Preston, 2d " " 2 " " second premium,.... 3
Geo. C. Hitchcock, New Preston, Ewes, 3 " " first premium,..... 8
Geo. C. Hitchcock, New Preston, 2d best " " " second premium,.... 5
Geo. C. Hitchcock, New Preston, Best five Lambs, first premium,..... 5
Geo. C. Hitchcock, New Preston, Ewes 1 year old, first premium,..... 5
Geo. C. Hitchcock, New Preston, " " " second premium,..... 3

DAVID LUCAS,
RALPH I. SCOVILLE, } Committee.

NO. 30.—MIDDLE WOOLED SHEEP.

Bucks, three years old and over.

T. S. Gold, West Cornwall, first premium,..... $8
T. S. Gold, " " second premium,..... 5

Bucks, one year old and under three.

Alonzo Whiting, Torrington, first premium,..... 5
C. B. Smith, Wolcottville, second premium,..... 3

Ewes, three years old and over.

T. S. Gold, West Cornwall, first premium,..... 8
James A. Bill, Lyme, second premium,..... 5

Five Ewes, one year and under three.

T. S. Gold, West Cornwall, first premium,..... 5
C. B. Smith, Wolcottville, second premium,..... 3

Five Lambs.

Bevil P. Smith, Woodbridge, first premium,..... 5

Discretionary Premiums.

James A. Bill, Lyme, Buck, 3 years old,..... 3
T. S. Gold, West Cornwall, 5 Lambs,..... 3

ANSON FOWLER,
CYRUS CATLIN,
SAMUEL O. HATCH, } Committee.

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NO. 31.—MERINO SHEEP.

Alonzo Whiting, Torrington, Merino Buck, first premium,..... $8
James A. Bill, Lyme, 2d best " " second premium,..... 5
Alonzo Whiting, Torrington, Five Ewes, first premium,..... 8
James A. Bill, Lyme, 2d best " " second premium,..... 5
Alonzo Whiting, Torrington, Five Lambs, first premium,..... 5

EDW. BENTLY,
E. J. ATWOOD,
A. B. COE,
} Committee.

NO. 32.—SAXONS AND ALL GRADES SHEEP.

C. B. Smith, Wolcottville, Best Saxon Buck, first premium,..... $8
James A. Bill, Lyme, 2d " " " second premium,..... 5
C. B. Smith, Wolcottville, Best Five Saxon Ewes, first premium,..... 8
Truman Minor, Woodbury, 2d " " " second premium,..... 5
Truman Minor, Woodbury, Best pen, five Lambs,..... 5
C. B. Smith, Wolcottville, Best Five grade Ewes,..... 8
James A. Bill, Lyme, 2d " " " " 5
James A. Bill, Lyme, Best pen Five Ewe grade Lambs,..... 5

The Committee recommend to P. B. Tyler, West Haven, for one pair black African Sheep, discretionary premium of two dollars.

CHARLES HUBBARD,
WILLIAM S. HULL,
M. H. BISHOP,
} Committee.

NO. 33.—FAT SHEEP.

Geo. C. Hitchcock, New Preston, Best Long Wooled, first premium,..... $8
Geo. C. Hitchcock, " 2d " " " second premium,..... 5
Geo. C. Hitchcock, " Best Middle Wooled, first premium,..... 8
T. S. Gold, West Cornwall, 2d " " " second premium,..... 5
Geo. C. Hitchcock, New Preston, Best grade, first premium,..... 8
B. Bright, Thompsonville, 2d " " second premium,..... 5

A. B. SHERWOOD,
C. H. BENNETT,
E. WOODRUFF,
} Committee.

NO. 34.—SUFFOLKS, SWINE.

Wm. L. Bradley, West Meriden, Best Boar, first premium,..... $3
David Cook, New Haven, 2d " " second premium,..... 4
Wm. L. Bradley, West Meriden, Best Sow, first premium,..... 6
Daniel Cooke, New Haven, 2d " " second premium,..... 4

ANDREW BARNES,
C. A. LINSLEY,
K. DOWNES,
} Committee.

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NO. 35.—SWINE OF OTHER BREEDS.

Samuel Davis, New Haven, For Best boar one year old and over, first prem... $6
Sam'l W. Fellowes, " 2d. " " " " " second prem. 4
James A. Bill, Lyme, For Best Sow, first premium,..... 6
Geo. W. Brockett, North Haven, 2d Best Sow, second premium,..... 4
Kneeland Downes, Bethany, Best Sow and Pigs, not over ten weeks old, first premium,..... 8
Josiah P. Isbell, Milford, 2d Best Sow and Pigs, not over ten weeks old, second premium,..... 5

HENRY BILL,
W. H. BURTIS, } Committee.

NO. 36.—POULTRY.

Whitney Elliott, North Haven, White Dorkings, first premium,..... $2
Jabez F. Potter, Hamden, Grey " second premium,..... 2
Enos Bassett, Hamden, Black Spanish, first premium,..... 2
Jabez F. Potter, Hamden, " " second premium,..... 1
Enos Bassett, Hamden, White Polands, first premium,..... 2
Enos Bassett, Hamden, Black Polands, first premium,..... 2
Augustus Bagley, New Haven, Golden Polands, first premium,..... 2
Enos Bassett, Hamden, " " second premium,..... 1
Enos Bassett, Hamden, Jersey Blues, first premium,..... 2
J. P. Isbell, Milford, " " second premium,..... 1
James Harrison, New Haven, Game Fowls, first premium,..... 2
James Harrison, New Haven, " " second premium,..... 1
J. P. Isbell, Milford, Buff Shanghae, first premium,..... 2
John F. Welles, Wethersfield, White Shanghae, first premium..... 2
John F. Welles, Wethersfield, Grey " first premium,..... 2
Henry Mather, Hamden, " " second premium,..... 1
Enos Bassett Hamden, Bolton Greys, first premium,..... 2
J. P. Isbell, Milford, " " second premium,..... 1
J. P. Isbell, Milford, Dominique " first premium,..... 2
G. P. Bates, New Haven, African Bantams, first premium,..... 2
E. W. Stiles, New Haven, " " second premium,..... 1
Wm. R. Chapman, New Haven, Bantams, first premium,..... 2
John H. Graniss, New Haven, " second premium,..... 1
Wm. Cooper, New Haven, Native Fowls, first premium,..... 2
Samuel Davis, Town Farm, New Haven, Native Fowls, second premium,.... 1
Samuel Davis, Town Farm, New Haven, Best pair Turkies, first premium,... 2
F. W. Cowles, Buckland, Best pair Wild Turkies, first premium,..... 2
Bethuel Brockett, North Haven, Best Ducks, first premium,..... 2
Geo. P. Bates, New Haven, 2d " " second premium,..... 1
Bethuel Brocket, North Haven, " Geese, first premium,..... 2
Charles N. Beecher, Woodbridge, 2d Best Geese, second premium,..... 1

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Bethuel Brockett, North Haven, Guinea Fowls, first premium,..... $2
Enos Bassett, Hamden, greatest variety of Pigeons, first premium,..... 2
Jabez F. Potter, Hamden, 2d " " " second premium,..... 1
Enos Bassett, Hamden, best exhibition poultry owned by one person, first prem. 6
J. P. Isbell, Milford, 2d " " " " " " sec. prem. 4
Wm. P. Gordon, New Haven, best exhibition common rabbits, first premium,.. 2
H. A. Mix, New Haven, 2d " " " " second premium,. 1

Discretionary.

John Giles, Woodstock, 1 trio Silver Pheasants, premium,..... 2
E. D. Dickerman, Mt. Carmel, 1 pair Geese, premium,..... 1
W. H. Farnham, Westville, one Coop Bantams, premium,..... 1
John H. Granniss, New Haven, 1 pair California Quails, premium,..... 50c
Thomas Horsfall, New Haven, Bantam Fowls, premium,..... $1
J. H. Hoke, New Haven, 1 pair Birds, premium,..... 50c
E. W. Stiles, New Haven, 1 Coop Bantams, premium,..... 50c
Chester Robinson, North Haven, 1 pair grey Shanghaes,..... $1

WM. H. PRENTICE, Committee.

CLASS IV.

Tools, Machinery, &c.

NO. 37.—PLOWING MATCH.

Alexander Hamilton, West Hartford, with Ruggles, Nourse & Mason Plow, first premium,..... $12
Loren Carpenter, Meriden, with Ruggles, Nourse & Mason Plow, second prem. 10
Samuel Coombs, Westville, common plow, third premium,..... 8
T. L. Hart, West Cornwall, with Nourse's Eagle plow, No. 73½, 4th premium,. 5

Boys under 18 *years of age.*

William Hubbard, (17 yrs,) Guilford, with Dutch Plow, first premium,..... 8
L. D. Grant, (16 yrs,) Bloomfield, with Prouty & Mears' Plow, second premium, 5
James R. Hubbard, (14 yrs,) Discretionary,..... 2

Michigan Plow.

Thomas Cowles, Farmington, first premium,..... 12
Edward Shepherd, No. 19, Ed. Bradley's plow, second premium,..... 8
Samuel Wolcott, under 18 years, discretionary premium,..... 3

ASA HUBBARD,
H. TUCKER,
CHAS. OSGOOD,
} Committee.

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NO. 38.—FARM IMPLEMENTS.

The Committee on Farm Implements, having attended to the duties assigned them, report that there were brought to their notice, fourteen Mowers and Reapers. The Committee had no means of testing their merits, but are well aware that each has its advocates, and all of them are highly appreciated by the Farming community, and must soon come into general use. They have, however, awarded to John P. Adriance, of New York, the prize of a Gold Medal, for the improved Buckeye Mower.

H. P. Judson, Bethlem, for Bow-Keys for Ox yokes,..... $1
Marvin Smith, New Haven, for Apple Parer,..... 1
Elbert E. White, Stamford, Whitcomb's Horse Rake,..... 3
Loren Carpenter, Meriden, Ox Yoke,..... 2
D. B. Jackson, Bethlem, device for Drawing Water,..... 2
Alexander Hamilton, West Hartford, Ox Cart,..... 2
Taylor & Pardin, Hightstown, N. J., machine for digging and gathering Potatoes,..... 2
T. B. Rogers, Wethersfield, Corn Husker,..... 1
T. B. Rogers, Wethersfield, Seed Drill,..... 1
Whitmore, Bachelor & Co., Chicopee Falls, Feed Cutter,..... 2
H. W. & C. C. Stetson, Hartford, Hog Trough,..... 1
Amasa Warren, Westport, Hand Cultivator,..... 1
Leander A. Burr, Haddam, Smith's Patent Butter Worker and Churn,..... 1

FREDERICK BUELL,
WILLIAM BASSETT,
STEPHEN HOYT,
} Committee.

NO. 39.—AGRICULTURAL AND HORTICULTURAL IMPLEMENTS.

Robert B. Bradley & Co., New Haven, for best collection,..... Silver Medal.
Wm. B. Johnson & Co., New Haven, second " " ..... Silver Medal.
Wm. B. Johnson & Co., New Haven, for best assortment of Plows,. Silver Medal.
D. W. Shares, Hamden, for best Digging Machine,..... Gold Medal.
T. S. Gold, West Cornwall, for best Rock Hook,..... Diploma.
Ralph I. Scoville, West Cornwall, best Broadcast Sowing Machine,.. Silver Medal.

Recommended.

H. Tucker, Vernon, for Hall's Patent Stump Machine,..... Diploma.
John B. Knapp, Stamford, for best Fire Brick and Drain Pipe,..... do.
T. B. Rogers, Wethersfield, for best Drill Seed Planter,..... do.
T. B. Rogers, Wethersfield, for best Corn Husker,..... do.

SAMUEL G. BLACKMAN,
SAMUEL G. TIBBALS,
ENOS HOPKINS,
} Committee.

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NO. 40.—TOOLS, MACHINERY, &c.

Joseph Franklin, New Haven, Sterling's Gas Regulator,	Diploma.
Milo Peck, New Haven, Model Drop Press, Model Atmospheric Drop Hammer,	do.
New London Horse Nail Co., New London, Horse Shoe Nails,	do.
Lincoln & Douglass, New Haven, Patent R. R. Car Trucks,	do.
George Churchill, Hartford, Patent Belt Clasp,	do.
Sampson, Tibbals & Co., Troy, N. Y., Hay and Cattle Scales,	do.
Frank Douglass, Hebron, Carriage Jack,	do.

Many of the articles entered, the Committee were unable to find, of those found, in many instances there was no one present to designate the advantages claimed in the articles exhibited. In regard to the Sewing Machines, they feel they ought not to express an opinion of preference from the impossibility of deciding upon their comparative merits upon the slight examination possible at the time.

RICHARD HINE,
E. T. BUTLER,
J. D. CANDEE,
J. P. BUNCE,
} Committee.

NO. 41.—BUTTER.

Committee on Butter respectfully beg leave to report that they have attended to the duties of their appointment, and would state that they had presented for their inspection and examination no less than forty different samples (with very few exceptions) of the most splendid and beautiful June and Fall butter, that it was ever their privilege to taste, and for neatness and the good order in which it was put up, was particularly deserving of attention, and met the hearty approbation and approval of your Committee, showing to them that these numerous specimens of butter must have come from the delicate hands of the most neat and tidy of Connecticut wives and daughters, of whom your committee have no hesitation in expressing the opinion, that they cannot be surpassed in any other State. And your Committee most fully believe, that in this opinion, they will be sustained, by all who have witnessed the numerous fair countenances and sparkling eyes of the Connecticut ladies that have graced the Fair grounds on this occasion.

Your Committee regretted as they looked over these so much to be admired specimens, so delicious to the taste, that they had not

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a premium at their disposal to confer for every one of them, but as there were but eight premiums to bestow, four for June, and four for Fall butter, they were obliged to make selections, and in doing this they are by no means sure that they have done justice, other tastes might have come to different results, but we hope we shall have the credit of acting impartially without bias in coming to our conclusions, we will only say we have done the best we could, and the best could not do any better we award therefore to

A. & T. Jerome, Bloomfield, Fall Butter, first premium,	$10
Sylvester Bronson, Middlebury, Fall Butter, second premium,	8
David Whittlesey, New Preston, " " third premium,	5
Ashbel Landon, Lakeville, " " fourth premium,	3
J. F. McNiel, Salisbury, June Butter, first premium,	10
John Ford, Stratford, " " second premium,	8
Lauren Tyrrell, Woodbury, " " third premium,	5
W. A. Wolcott, Lakeville, " " fourth premium,	3

Discretionary.

Mrs. Henry Sanford, Bethany, Fall Butter,	2
Mrs. E. A. Phelps, Colebrook, June and Fall Butter,	2
Mrs. Chas. G. Atwater, Hamden, June and Fall Butter,	3
Mrs. Wm. H. Putnam, Brooklyn, Fall Butter,	2
Mrs. S. G. Benham, Hamden, June and Fall Butter,	2

PELEG C. CHILD, Chairman of Committee.

The two tubs of Butter presented by E. A. Phelps, were manufactured in Colebrook, Litchfield Co., churned from the milk. The Dairy consists of twelve Cows, the churning is performed every day. The churn used is a large dasher-churn holding some 40 to 50 gallons, which with a thermometer, combines all the advantages of any churn now in use.

The butter when taken from the churn, is washed in pure spring water, which process perfectly expresses the milk, while it does away with the necessity of *working the butter too much*, the great fault of most butter makers. No ingredient is used except *pure rock salt* to give it flavor, or for its preservation. The tubs used are made of white hemlock, a kind of timber devoid of all flavor, and perfectly sweet. The tubs are soaked some three weeks in a strong brine before packing. When filled they are set away in a common cellar, and the butter is marketed in November and December to private families.

No cheese is made from the dairy, and no difference is made in the price throughout the season. I have eaten butter of this manufacture,

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two years old, sweet and good. The churning is performed from 12 to 14 hours after milking. *The hand is never allowed to come in contact with the butter.*

E. A. PHELPS.

P. S.—I know of no other dairy in the State, where butter is made by the same process.

I strain the milk in tin pans, about half full, and let it stand until the cream is fully ripe, and churn it the usual way, and then take out the butter and work it as dry as I can, and then salt it, and let it stand about two days, and then work it well, and let it stand a day or two more and work it, and then lay it down, placing salt between the layers, cover it with salt, placing a cloth on the top and keep it in a cool cellar.

LAUREN TYRRELL.

LAKEVILLE, CONN.

To the Committe of the Conn. State Agricultural Society on Butter:

This Butter was made from a dairy of five cows. Cows feed, old pasture, stabled and soiled night and morning with grass, or corn fodder. Milk kept in temperature varying from fifty five to sixty degrees. Churned at sixty degrees. Milk skimmed before souring, cream churned every other day while still sweet. Salted at the first working with three-quarters of an ounce of salt to the pound. Butter worked three times, being careful not to work it at any one time enough to make it oily.

Mrs. ASHBEL LANDON.

NO. 42.—CHEESE.

T. L. Hart, West Cornwall,	best 50 lbs,			first premium,.....	$8
W. H. Putnam, Brooklyn,	"	"		second premium,.....	5
J. F. McNiel, Salisbury,	"	"		third premium,.....	3
T. L. Hart, West Cornwall,	best 100 lbs,		new cheese,	first premium,.....	8
J. F. McNeil, Salisbury,	"	"	" " "	second premium,.....	5
Wm. H. Putnam, Brooklyn,	"	"	" "	third premium,.....	3
T. L. Hart, West Cornwall,	best 50 lbs.		English Dairy,	1 year old, first prem...	8
J. F. McNiel, Salisbury,	" 50		" "	1 year old, second prem.	5
T. L. Hart, West Cornwall,	" 100		" "	new, first prem.....	8
Levi Cook & Son, Colebrook,	100		" "	second premium,.....	5
J. F. McNiel, Salisbury,	100		" "	third premium,.....	3

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Discretionary.

David Whittlesey, New Preston, 100 lbs, new cheese,..... $3

CALEB MIX,
GEO. H. PENNIMAN,
E. WOODRUFF,
} Committee.

To the Committee of the Conn. State Ag'l Society on Dairy Products:

The accompanying lot of Cheese is of the same kind known in our markets as "English Dairy." Our manner of making it is as follows: The morning milk is strained into a tub, and rennet added, sufficient to coagulate to a curd, also prepared annatto to make a rich color. The milk should stand three-fourths of an hour, then the curd must be carefully broken, after which it should stand and settle. The whole must be then dipped into a strainer placed in a box, elevated so as to allow the whey to pass off, place a weight upon the curd to accelerate the draining process. After draining six hours, the curd should be suspended over a sink till the next morning, when it is cut with a machine into small cubes, and moderately heated with water till the curd will not separate by being pressed with the fingers. It should then be allowed to drain as dry as possible, and salted in the proportion of one teacupfull of salt to ten pounds of curd. It is left until nearly cold, for if placed in the hoop warm the cheese will have a strong taste. After being pressed six hours, it is taken out and turned into a close fitting cap, replaced in the press where it remains till the next day, making forty-eight hours of pressing. The cheese should be oiled every day for two months. The same process is pursued with the nights' milk.

LEVI COOKE & SON.

As to the process of manufacturing the cheese offered for exhibition, I have nothing new to communicate save what I have already communicated in former statements which have been published in the Transactions of the Society, to which reference may be had.

Among the most important things to be observed in the manufacture of cheese is the saving and preparation of the rennet; if this be not carefully attended to, no amount of care or good management afterward will make a good and pleasant cheese. To preserve the rennet, it must at all times be kept from dampness, or its strength will be lost by evaporation. In preparing for immediate use, the addition of lemon juice will very much aid in preserving it, and also in coagulating the milk.

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It is also very necessary that care should be taken to break the curd evenly, or it will not be equally scalded, and the consequence will be a leaky cheese.

T. L. HART, *West Cornwall.*

NO. 43.—HONEY.

J. Phelps Davis, Middletown, first premium,..... $5
Stephen Topliff, Oxford, second premium,..... 3
J. S. Partridge, Albion, New York, discretionary premium,..... 3

Beeswax.

Smith Beach, Cornwall, first premium,..... 2

Bayberry Tallow.

Miss Eliza J. Smith, Bethany,..... 2

R. C. Otis, Kenosha, Wis., Honey,.....
R. C. Otis, " " Langstroth's movable cone Bee Hive,.....
R. C. Otis, " " " Bee Hat,..... } Gold Medal
R. C. Otis, " " " Samples Honey Box,.....
R. C. Otis, " " " Observatory Hive,.....

R. B. CHAMBERLAIN,
WM. H. PUTNAM,
W. W. STONE, } Committee.

NO. 44.—GRAIN AND SEEDS.

Wm. Parmelee, New Haven, Winter Wheat, first premium,..... $3
H. E. Brooks, Cheshire, " " second premium,..... 2
Chas. N. Beecher, Woodbridge, Spring " first premium,..... 3
Wm. A. Wolcott, Lakeville, " " second premium,..... 2
J. S. Lindsley, Northford, Barley, first premium,..... 3
Daniel C. Augur, Woodbridge, second premium,..... 2
Wm. W. Fowler, Guilford, Oats, first premium,..... 3
H. N. Warner, North Haven, " second premium,..... 2
Whitney Elliot, " " Rye, first premium,..... 3
Sackett G. Benham, Hamden, " second premium,..... 2
Hayden F. Todd, North Haven, Buckwheat, first premium,..... 3
Whitney Elliot, " " " second premium,..... 2
Ashbel Landon, Lakeville, Timothy Seed, first premium,..... 3
Truman Minor, Woodbury, Clover Seed, first premium,..... 5

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Wm. H. Woodin, Hamden, Beans, first premium,..... $2
D. C. Augur, Woodbridge, " second premium,..... 1
Sheldon A. Hotchkiss, Hops, first premium,..... 1
Sam'l Davis, Town Farm, New Haven, Corn, first premium,..... 3
S. G. Benham, Hamden, Corn, second premium,..... 2

Discretionary.

The Committee recommend a discretionary premium to each of the following persons for Corn:

Jared Atwater, Hamden,..... $1
Wm. H. Buell, Clinton,..... 1
Josiah Pease, New Milford,..... 1

The Committee recommend discretionary premiums of $1.00 to each of the following persons:

R. F. Stillman, North Haven, Champion of England Peas,..... $1
R. F. Stillman, " " Early North Haven,..... 1
D. C. Augur, Woodbridge, nine varieties beans,..... 1
W. H. Putnam, Brooklyn, bushel Kilm Oats,..... 1
Mrs. Eliza Smith, Bethany, " " " 1

W. B. JOHNSON,
SACKETT G. BENHAM,
JOHN H. SHERWOOD,
} Committee.

NO. 45.—VEGETABLES.

Charles Andley, New Haven, Best 6 stalks of Celery, first premium,..... $2
Samuel Davis, New Haven, 2 do. 6 " " second premium,..... 1
George Atwater, Hamden, Best one-half bushel Turnips, first premium,..... 2
Ashbel Landon, Lakeville, 2d do. " " " second premium,..... 1
P. Buckley, Hartford, Best one-half bushel Carrots first premium,..... 2
A. Bagley, New Haven, 2d do. " " second premium,..... 1
Charles L. Chaplain, New Haven, Best 6 Pumpkins, first premium,..... 2
Wm. S Bronson, New Haven, 2d do. 6 " second premium,..... 1
P. Buckley, Hartford, Best one-half bushel Beets, first premium,..... 2
Wm. F. Morgan, Woodbridge, 2d do. " " second premium,..... 1
P. Buckley, Hartford, Best one-half bushel Parsnips, first premium,..... 2
New Haven, 2d do. " " A. Holford, second premium,..... 1
Daniel C. Auger, Woodbridge, Best one-half bushel Onions, first premium,... 2
Vinus Wooding, Hamden, 2d do. " " " second premium,.. 1
Henry Pember, Newington, Best 2 bunches Onions, first premium,..... 2
Nelson Tyler, West Haven, Best 6 Cabbages, first premium,..... 2
William Miles, New Haven, 2d do. 6 " second premium,..... 1
S. Mead, New Haven, Best one-half bushel Tomatoes, first premium,..... 2
A. Bagley, New Haven, 2d do. " " second premium,..... 1

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P. Buckley, Hartford, Best 6 Winter Squashes, first premium,..... $2
A. Holford, New Haven, 2d do. " " second premium,..... 1
Hayden F. Todd, North Haven, Best one-half bushel Potatoes, first premium,. 2
Wm. H. Woodin, Hamden, Best one-half bushel Potatoes, second premium,... 1
Wm. F. Morgan, Woodbridge, Best 24 ears Sweet Corn, first premium,..... 2
W. A. Wolcott, Lakeville, 2d do. 24 " " " second premium,.... 1
George Atwater, Hamden, Best one-half bushel Lima Beans, first premium,... 2
A. Holford, New Haven, 2d do. " " " second premium,.. 1
A. Veitch, New Haven, Best and largest collection Vegetables, first premium,. 10
P. Buckley, Hartford, 2d " " " second premium, 8
Samuel Davis, New Haven, 3d " " " third premium,.. 5

Discretionary.

A. Holford, New Haven, for collection Vegetables,..... $3
Orrin Todd, North Haven, for Yellow Pumpkins,..... 1
Wm. Parmelee, New Haven, Beets,..... 1
P. Buckley, Hartford, large Squashes,..... 1
Benj. H. Jackson, New Haven, large Squashes,..... 1
Jared Gorham, Hamden, Potatoes,..... 1
Wm. B. Baldwin, New Haven, Potatoes,..... 1
Lauren Tyrrell, Woodbury, " 1
William Cooper, Hamden, " 1
Michael Donegan, New Haven, Kohl-rabi,..... 1
E. E. Clark, New Haven, 1 case Dioscorea Batatas,..... 1
E. E. Clark, New Haven, Chinese Pine Melons,..... 1
S. Mead, New Haven, sample Egg plants,..... 1
A. Bagley, New Haven, " " 1
Miss M. Gilbert, Westville, Chinese Yam,..... 1
Horace Atwater, Hamden, sample peppers,..... 1

A variety of potatoes called Strawberry Potatoes, were exhibited, but not entered, which seemed worthy of a favorable notice from the committee, all of which is respectfully submitted.

SOLOMAN MEAD,
PETER ASHTON,
A. H. JEROME,
} Committee.

NO. 46.—FLOUR AND BREAD.

Bridgeport Mills, Bridgeport, best bbl. Flour made in Connecticut,....Silver Medal.
H. Baldwin, Washington, best Rye flour,..... $1
Linsley, Van Zant and Carlisle, New Haven, best Buckwheat Flour,..... 1
Fairfield Co. Mills, Bridgeport, best Indian Meal,..... 1
Mrs. A. Wolcott, Lakeville, best Wheat Bread,..... 3
James A. Bill, Lyme, 2d " " " 2
Henry Sanford, Bethany, 3d " " " 1
C. S. Barnes, Salisbury, best Rye Bread,..... 3

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James Augur, Bethany, 2d do. " $2
W. A. Wolcott, Lakeville, 3d do. " 1
Ashbel Landon, Lakeville, best Brown Bread,..... 3
David Whittlesey, New Preston, 2d best Brown Bread,..... 2
Wm. H. Putnam, Brooklyn, 3d " " " 1

M. W. COMSTOCK,
J. W. HINE,
HENRY HAMMOND,
} Committee.

CLASS VI.

NO. 47.—HOUSEHOLD MANUFACTURES.

Rag or other Carpets.

Mrs. Wilford, Branford, first premium,..... $8
Mrs. Tibbals, Durham, second premium,..... 5
Mrs. Philo Hurd, Watertown, third premium,..... 3

Discretionary.

Mrs. J. F. Phelps, Bloomfield,..... 2
Mrs. David Whittlesey, New Preston,..... 2
Mrs. Mary A. Pomeroy, New Haven,..... 1

David Whittlesey, New Preston, Braided Hearth Rug, first premium,..... 2
John Ford, Stratford, Worsted Hearth Rug, second premium,..... 1
Mrs. Henry Hickox, Woodbridge, one superior Woolen Blanket, first prem.... 3
John Ford, Stratford, one pair Woolen Blankets, second premium,..... 2
Mrs. Milan Hart, New Haven, discretionary,..... 3
Mrs. Joseph A. Rogers, Hamden, Woolen Flannel, first premium,..... 3
Smith Beach, Cornwall, white Woolen Flannel, second premium,..... 2
Smith Beach, " plaid " " discretionary premium,..... 1
Mrs. George Hayes, Warren, Quilted Counterpane, first premium,..... 3
John Ford, Stratford, " " second premium,..... 2
Miss Georgiana Treadway, Knitted Counterpane, first premium,..... 3
Miss Nellie Hubbell, Bridgeport, second premium,..... 2
Miss Sallie B. Mansfield, North Haven, discretionary..... 1
Mrs. N. S. Richardson, New Haven, best Comfortable, premium,..... 2
Mrs. B. Morton, Fair Haven, Bed Quilt, first premium,..... 3
Mrs. Sarah E. Creighton, Meriden, second premium,..... 2
Miss Rodetta Armstrong, Fair Haven, Silk Bed Quilt, premium,..... 2
Truman Minor, Woodbury, Woolen Yarn Mittens, premium,..... 2
Smith Dayton, New Haven, Fringe Mittens, Woolen Gloves, premium,..... 2
Henry Sanford, Bethany, best Knit Woolen Stockings, first premium,..... 2
Mrs. Charles G. Atwater, Hamden, second premium,..... 1

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Hannah Booth, Stratford, Silk Stockings, premium,..... $2
Mrs. Hannah Cooper, New Haven, Knit Woolen Half Hose, premium,..... 2
Smith Beach, Bethany, Knit Cotton Half Hose, premium,..... 2
Mrs. L. H. Sigourney, Hartford, 6 pair Silk Hose, premium,..... 2
Mrs. Philo Hurd, Middletown, best 10 yards Linen, premium,..... 3
Samuel C. Buddington, Huntington, best pound Linen Thread, premium,..... 2
Samuel C. Buddington, Huntington, best Linen Kersey, first premium,..... 3
Mrs. Philo Hurd, Watertown, 2d " " second premium,..... 2

Discretionary.

Miss Grace M. Lines, New Haven, Worked Skirt,..... 2
Sally R. H. Smith, between 3 and 4 years of age, Pillow Case,..... 2
John Farnham, Huntington, Pillow Cases and Skirt,..... 2
Miss. H. S. Peck, two sets Feather Furs, made by Prudence, aged 5 yrs. 10 mos. 2
E. S. Read, 2 Bed quilts, by a lady 87 years old,..... 3

Committee of Ladies by

E. H. BISHOP.

NO. 48.—NEEDLE, SHELL, WAX AND FANCY WORK.

Miss Adelaide Hall, New Haven, Embroidered Chair, premium,..... $3
Madame Clara French, New Haven, Fire Screen, first premium,..... 3
Miss Adelaide Hall, New Haven, " second premium,..... 2
Mrs. Julia L. Gardner, New Haven, Worsted Embroidery, first premium,..... 5
Mrs. Chas. Bradley, New Haven, second premium,..... 3
Mrs. Dennis Umberfield, New Haven, Embroidered Suspenders, premium,..... 1
Mrs. Dennis Umberfield, New Haven, Crotchet " premium,..... 1
Mrs. Henry G. Smith, Westville, Worsted Embroidery, premium,..... 1
Madame Clara French, New Haven, Embroidered Vest, premium,..... 1
Harriet Horn, New Haven, Embroidered Handkerchiefs, premium,..... 2
A. A. Wilcox, " Silk Embroidery, premium,..... 1
Mrs. L. R. Woodbridge, Stonington, Embroidered Cushion, premium,..... 1
Henry Plumb, New Haven, Embroidery, Laces &c.,.....Dip. recommended.
Miss Susan Perkins, New Haven, Worsted Work, premium,..... $2
Francis Bulkley, " Pin Cushion, premium,..... 1
Anna Hotchkiss, " Worsted Picture, premium,..... 1
M. J. Goodrich, Middletown, several Embroidered Articles,..... 3
S. C. Allen, Stratford, Worsted Work, premium,..... 1
Frank Douglass, Hebron, Embroidery, premium,..... 1
Miss Lizzie A. Buel, New Haven, Slippers, premium,..... 1
Mrs. Geo. Bradley, Hamden, Lamp Mat, premium,..... 1
Mrs. H. Gilbert, Westville, Collar, premium,..... 1
Rodella Armstrong, Fair Haven, Counterpane, premium,..... 3
Miss H. Gilbert, Westville, Silk Coverlid, premium,..... 1
Miss H. Gilbert, Westville, Wax Flowers, " 2

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Alexander Denman, New Haven, Card box,..... $1
Dexter Alden, " Needlework,..... 3
Mrs. S. G. Pitman, " Shell Work,..... 3
Nellie Whiting, " Cone Frames and Basket, premium,..... 3
Adeline Kempshaw, Branford, Bedquilt, premium,..... 3
Harriett Hood, New Haven, Shawl, premium,..... 3
Mary A. T. Armstrong, Mt. Carmel, Worsted Shawl, premium,..... 2
Mrs. C. Hine, Plymouth, Cone Frame, premium,..... 2
Mrs. Charlotte Canfield, Leather Frame, premium,..... 3
Miss Augusta Braddock, Essex, Wax Flowers, premium,..... 3
Miss Charlotte Kellam, New Haven, Hair Work, premium,..... 1
Miss Nettie C. Norton, Goshen, Handkerchiefs, premium,..... 3
Miss Willis Smith, New Haven, Shell Frames, premium,..... 1
Miss C. B. Brooks, " Feather Flowers, premium,..... 3
Miss Rosa Fricke, Bridgeport, Moss Stand, premium,..... 3
Mrs. John Hughes, East Haven, Shell Frames, premium,..... 3
F. W. Pierpont, Fair Haven, " premium,..... 2
F. W. Pierpont, Fair Haven, Basket Shells, premium,..... 1
Miss Lizzie A. Buel, New Haven, Autumn Leaves, premium,..... 1

WM. B. PARDEE,
MRS. WM. B. PARDEE,
MRS. GEO. ENGLISH,
} Committee.

CLASS VII.

Textile Fabrics.

NO. 49.—TEXTILE GOODS.

J. M. Crofut & Co., New Haven, For Cloaks and Shawls, and Dresses for Children, made on Sewing Machine,..... Diploma.
Norfolk Hosiery Company, Norfolk, For one-half dozen all wool Shirts,..Gold Medal.

JOHN T. ANDREW,
E. S. MUNSON,
R. S. STILLMAN,
} Committee.

NO. 50.—SILVER WARE, CUTLERY AND FIRE ARMS.

Paul Roessler, New Haven, 1 Case Optical Instruments, and Mathematical Instruments, Microscopes, Opera Glasses, Steel Spectacles and Eye Glasses,..... Silver Medal.
Northfield Knife Co., Northfield, Pocket Cutlery,..... do.
Samuel J. Hoggson, New Haven, Samples Dies, Stamps and Stencils,... Diploma.

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Roberts & Sperry, New Haven, Silver, Electro and Crystal Plating, Silver Medal.
F. A. Moore, New Haven, Exposed Clock,..... do.
United Knife Co., Litchfield, 1 Case Pocket Cutlery,..... do.
C. Cowles & Co., New Haven, Plated Ware and Carriage Trimmings, do.
Bliss & Goodyear, " Revolved Pistols,..... Diploma.
Henry Yerrington, Norwich, American Rifle,..... ..... do.
J. W. Munson, Bridgeport, Powder Flasks and Shot Pouches,..... do.
Charles Snow, Brooklyn, Gold Pens,..... do.
Rose & Chadwick, Hartford, Sharp's Patent Breech Loading Repeating Pistol,..... do.
Hinman & Pardee, New Haven, card of Scissors, Shear and Knife Sharpeners,..... do.
A. G. Shaver, New Haven, Shavers Patent Eraser,..... Silver Medal.
Palmer & Co., New York, Artificial Limbs,..... do.
T. J. Stafford, New Haven, Automatic Pistols,..... do.

JOHN T. ANDREW,
E. S. MUNSON, } Committee.

NO. 51.—HOUSE TRIMMINGS, &c.

Jepson & Rawling, New Haven, 1 case Files and Recut Files,..... Silver Medal.
Wm. A. Clark, " Patent Extension Bitts,..... Diploma.
Wm. P. Smith, " Sample Silver Plated Harness Trimmings,. do.
Coe & Sniffin, Stamford, Sample of Skates,..... do.
F. H. Smith, Plainville, Window Sash Spring Balance,..... do.
Marshall Granniss, Waterbury, Patent Carpet Fastener,..... do.
Gridley & Co., New Haven, Patent Gimblet Pointed Screws, Wrought Iron Capped Picture Nails, Piano Pins, Saw Screws,..... do.

R. F. STILLMAN,
JOHN T. ANDREW,
E. S. MUNSON, } Committee.

NO. 52.—BRASS WORK AND STOVES.

Chas. Winship, New Haven, Best Cooking Range,..... Diploma.
Lyman Treadway & Co., New Haven, Best House Furnace,..... do.
Lyman Treadway & Co., " " Cooking Stove "Bay State,". do.
Chas Winship, " " " " "Good Samaritan,"..... Silver Medal.
Chas. Winship, New Haven, Parlor Stove,..... do.
Lyman Treadway & Co., New Haven, Laundry Stove for coal,..... Diploma.
W. T. Cannon & Co., New Haven, Bath Tub and Shower Bath,..... do.
Lyman Treadway & Co., New Haven, Coffee Roaster,..... do.

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Lyman Treadway & Co., New Haven, Continental Coffee Pot,..... Diploma.
Charles Cowles & Co., " Stove Ornaments,..... do.
Thomas Bruton, New York, Screw Top Can and Jars,..... do.
Thomas Bruton, " Self-ventilating Cake Box,..... do.
Samuel G. Blackman, Davis Improved Carpet Sweeper,..... do.

JAS. T. PRATT,
ISAAC BACKUS,
S. D. CASE, } Committee.

NO. 53.—LEATHER, ETC.

Bristol & Hall, New Haven, best collection Boots and Shoes, first premium,.. $5
J. W. Munson, Bridgeport, Cane Umbrella,..... Gold Medal.
J. W. Munson, " Miscellaneous Rubber Goods,..... Diploma.
Phineas S. Bradley, Woodbury, Calf Skins,..... do.
Collins & Co., New Haven, Leather Trunks,..... do.
Wm. Jas. Hamersley, Hartford, Patent Spring Stirrups,..... do.
M. Beers & Son, Cornwall, Gloves and Mittens,..... do.
M. Beers & Son, Cornwall, Buckskin,..... do.
E. W. Marston, New York, Patent Draft Hames,..... do.
J. W. Munson, Bridgeport, Whip Sockets and Martingal Rings,..... do.

JOHN H. GOODWIN,
JOS. MERRIMAN, } Committee.

NO. 54.—WOODEN WARE, ETC.

Willis Dickerman, Westville, best lot Wooden Pails, first premium,..... $2
J. H. Armstead & Co., New Haven, best Barrels, first premium,..... 3
Willis Dickerman, Westville, " second premium,..... 2
Willis Dickerman, " best Butter Firkins, first premium,..... 3
Isaac S. Dickerman, New Haven, " second premium,..... 2
Charles Webster, " best Baskets, first premium,..... 2
George L. Cooke & Co., " " second premium,..... 1
George B. Leete, New Haven, best Willow Ware, first premium,..... 2
Cooper & Case, Best handles for Carpenter's tools, first premium,..... 2
Mark Ball, New Haven, " " " second premium,..... 1

STEPHEN HOYT,
T. L. HART, } Committee.

NO. 55.—HATS AND TAILORS WORK.

Mrs. M. J. Hurlburt, New Haven, 5 Velvet Hats, premium,..... $5
Mrs. M. J. Hurlburt, " variety of other Hats,..... 3

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Miss Julia F. Wilbur, Norwich, Bonnet, premium,..... $3
Collins & Co., New Haven, Ladies Dress Furs,..... 5
Collins & Co., " Hats and Caps,..... 5
Norman Hope, " " second premium,..... 3

W. B. JOHNSON,
GEO. W. WOODING,
CHAS W. SHELTON, } Committee.

NO. 56.—PAPER.

B. Booth, New Haven, best sample Writing Paper,..... Diploma.

D. BARNES,
J. N. STICKNEY,
GEO. H. GOODWIN, } Committee.

NO. 57.—CABINET WARE.

Samuel H. Boyer, New Haven, 1 Black Walnut Hat Stand,..... Diploma.
D. N. Hotchkiss, New Haven, 1 Hat and Umbrella Stand,..... do.
Metallic Furniture Company, Norwich, Chairs and Tables,..... do.
Miss F. S. Collins, New Haven, Picture Table,..... do.

W. W. ROBERTS,
R. DAVISON,
J. P. AVERY, } Committee.

NO. 58.—CARRIAGES.

Killam & Co., New Haven, best Coach,..... Diploma.
Killam & Co., " best 6 seated Brett,..... do.
W. & C. Dickerman, " best Family Carriage,..... do.
Messrs. G. & D. Cook & Co., New Haven for assortment of Carriages,. Gold Medal.
Messrs. G. & D. Cook & Co., " best Top Buggy,..... Diploma.
Messrs. G. & D. Cook & Co., " best Open " ..... do.
Messrs. G. & D. Cook & Co., " best Pleasure Wagon,..... do.
Messrs. G. & D. Cook & Co., " best Sleigh,..... do.
Messrs. G. & D. Cook & Co., " best Chaise,..... do.
Stephen B. Gilbert, " best Business Sulky,..... do.
J. F. Cooper, New Haven, best Trotting Sulky and Skeleton Wagon,.. do.
S. H. Bishop, " Shifting Pole and Wagon Seats,..... do.
J. D. Sarven, " Carriage Wheels,..... do.
Chas. Beers, " Patent Holder Hooks and pr Footman Holders, do.
Geo. T. Newhall, " Baby Carriage,..... do.
Ralph Smith and Hicks Sumner, also exhibited 2 fine Baby Wagons,... do.

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Geo. T. Newhall, New Haven, best sample Carriage Bows,..... Diploma.
Geo. T. Newhall, " " Hubs and Spokes,..... do.
Geo. T. Newhall, " " Body Stuff in rough,..... do.
C. Cowles & Co., " " Cards of Plated Trimmings,. do.
Ira Dikeman, " Good portable Top, Dikeman's Patent,.. do.
Henry A. Mather, Waterbury, Best Silver Ornaments and Rosettes,... do.
Henry A. Mather, Waterbury, Best Whip Socket,..... do.
J. H. & G. Weed, New Haven, Best case of Harness Mountings,..... do.
Smith Bros., North Haven, Best Shaft poles and Carriage parts,..... do.
Work's Odometer Band Co., Hartford, Best Sample Odometer,..... do.
Samuel Dudley, New Haven, Best Fancy Stitching,..... do.
G. F. Kimball, " Finest large assortment of Carriage Wheels, and Hubs,..... do.
Geo. T. Newhall, New Haven, Laurence Buggy,..... do.

R. TOMLINSON,
N. ALVORD,
NELSON ALVORD, JR., } Committee.

NO. 59.—MUSICAL INSTRUMENTS.

Fish, Barrett & Randall, Woodbridge, one Organ Harmonium,..... Diploma.

ROBBINS BATTELL,
R. K. WEHNER,
GUSTAVE J. STŒCKLE, } Committee.

NO. 60.—FINE ARTS.

Wales Hotchkiss, New Haven, Portrait,..... .... Silver Medal.
Miss Fannie Sherman, " 3 Crayon Drawings,..... Diploma.
Miss Harriet Hood, " 4 Oil Paintings,..... do.
Punderson & Cuissand, " Lithograph Engravings,..... do.
Bryant, Stratton & Packard, 18 Cooper Ins., N. Y., samples of Writing,. do.
Williams & Wiley, Hartford, specimens of Printing in Colors,..... do.
T. J. Stafford, New Haven, Letter Press Printing,..... do.

M. HUDSON, Chairman.

NO. 60.—(A) MISCELLANEOUS.

Charles Winship, New Haven, Refrigerators,..... ..... Diploma.
L. Woodin, " Tift's Patent Clothes Dryer,..... do.
Parmelee & Leavenworth, New Haven, Improved Spool for Store use,.. do.

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Ramsdel & Leishman, New Haven, Plaster Ornaments for buildings,... Diploma.
H. J. Stevens, " Case of Dentistry,..... Silver Medal.
George Gardner, " 1 Case Wigs and Curls,..... Diploma.
Miss Mary Clark, Westville, specimens of Iron Ore from mines at Salisbury, do.
New Haven Steam Saw Mills Co., One Patent Fly Trap,..... do.
John N. Bunnell, Unionville, Culvers Patent Sectional Folding Clothes Horse,..... do.
Wm. N. Wheeler, New Haven, for number of Coned Articles,..... do.
S. Moore, New Haven, Extension Gas Fixture, premium,..... $2
Joseph Fudge, New Haven, specimen Cut and Ground Glass,..... Diploma.
S. A. Bailey, New London, Patent Washing and Wringing Machine,.... do.
George Darrow, New Haven, Duck Boat,..... do.
Smith & Ensign, " specimen of Lasts,..... do.
H. K. Sears, Hartford, Iron Bridge,..... do.
Charles F. Hartwig, New Haven, Model Ship,..... $3
J. R. H. Priest, N. Y., Elbrey's Patent India Rubber Paint, and one pair Shears,..... Silver Medal.
Moses Gilbert, Jr., New Britain, Model Ship, premium,..... $
Charles Webster, New Haven, Miniature Clipper Ship,..... 2
C. W. Marston, New York, Boot Jacks, premium,..... 2
H. Beebe, New Haven, India Rubber Mounted and Portfolio Slates,..... 2
Wadhams Man'f'g Co., Wolcottville, Papier Mache Waiters, Daguerreotype Cases, Stair Rods,..... Silver Medal.
C. A. Duryea, N. Y., Morrell's Patent Clothes Dryer,..... Diploma.
Anthony G. Davis, Watertown, Patent Parasol, Parasolette and Umbrella Handles,..... Gold Medal.

EZRA DEAN,
J. K. SHEPHERD,
AUSTIN A. SPAULDING, } Committee.

NO. 60.—(B.) MISCELLANEOUS.

J. H Smith, New Haven, Spaldings Liquid Glue,..... Silver Medal.
Thos. A. Read, " Friction Matches,..... Diploma.
George Gardner, " Samples Hair Perfumery,..... do.
G. W. Davis, " Inflammatory Extirpator,..... do.
Orrin O. Burdick, " North's New Haven Water-proof Leather preserver,..... do.
Bennedict & Bartlett, Philadelphia, Grecian Caoutchouc Oil Paste for Boots and Shoes, National Blue for Washing,..... Silver Medal.
Wm. Goodrich, New Haven, Sachem Bitters and Wigwam Tonic,..... Diploma.
Mrs. A. C. Chamberlain, New Haven, sample Soft Soap,..... do.
Wm. B. Billings, New York, Union Light and Gas Burning Lamp,. Silver Medal.
C. W. Marston, N. Y., Leather preservative,..... Diploma.
Geo. Buck, Hartford, samples of Indelible Ink and Flavoring Extracts, . do.

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H. C. Snow, Brooklyn, Conn., samples of Vegetable Oil,..... Diploma.
H. C. Snow, " " " Oline Oil,..... do.
H. H. Snow, New Haven, Confectionery, premium,..... $2

J. K. SHEPHERD,
EZRA DEAN,
AUSTIN SPAULDING, } Committee.

CLASS VIII.

Horticultural.

NO. 61.—PEARS.

Chas. Dickerman, New Haven, Best 12 varieties, first premium, 6 specimens each,..... $8
Samuel Peck, New Haven, best 8 varieties, 6 specimens each, second prem... 5
E. Newbury, Brooklyn, 2d do. second premium,..... 3
P. D. Stillman, 6 varieties, 6 specimens each, first premium,..... 3
Chas. Dickerman, New Haven, 1 doz. Beurre Superfine, premium,..... 3
David H. Carr, New Haven, 1 doz. Duchess d'Angouleme, premium,..... 2
John A. Taintor, Hartford, 1 doz. Winter Nelis, premium,..... 1
Chas. Dickerman, New Haven, best and largest collection of accurately named and approved varieties, 135 varieties,..... 8
Chas. Beers, New Haven, 37 varieties, premium,..... 5

And they recommend a gratuity to

Wm. A. Wolcott, Lakeville,..... 1
Eli Ives, New Haven,..... 1
Andrew Holford, " 1
Smith Dayton, " 1
Peter H. Ashton, Middletown,..... 1

All of which is respectfully submitted. In behalf of the Committee.

E. NEWBUBY, Chairman.
JNO. I. HOWE.

NO. 62.—APPLES.

Peter H. Ashton, Middletown, 12 varieties, one-half bu. each, first premium,.. $8
Edmund D. Bradley, 12 varieties, one-half bu. each, second premium,..... 5
L. A. Dickerman, Hamden, 12 do. " " third premium,..... 3
Paphro Steele & Son, Hartford, 24 varieties, 12 specimens each, first premium, 5
L. A. Dickerman, Hamden, 24 " 12 " " second prem,. 3
David Whittlesey, New Preston, 24 " 12 " third premium, 2

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P. K. Fay, Middletown, best bushel Apples, first premium, ... $2
L. H. Todd, Mt. Carmel, Hamden, second premium, ... 1
Peter H. Ashton, Middletown, 2d best collection of Apples, ... 6
Kneeland Downes, Bethany, 3d " " " 5
J. M. Gillette, Burlington, 4th " " " 2

T. C. AUSTIN, } Committee.
—— BISSELL, }

NO. 63.—PEACHES, GRAPES, &c.

Chas. Dickerman, New Haven, Plums, first premium, ... $3
Henry A. Warner, " Quinces, first premium, ... 3
Harmon Humiston, Hamden, " second premium, ... 2

Grapes, open culture.

James Craig, New Haven, best collection, ... 5
Charles Beers, " Isabella grapes, first premium, ... 3
Charles Augur, Whitneyville, " " second premium, ... 2
S. D. & L. B. Case, Canton, Catawba " first premium, ... 3
Ashbel Landon, Lakeville, " " second premium, ... 2
Chas. Augur, Whitneyville, Diana " first premium, ... 3
Chas. Andley, gardener to Misses Gerry of New Haven, Diana grapes, 2d. prem. 2
Chas. Dickerman, New Haven, Rebecca, first premium, ... 3
Rev. Joseph Eldridge, Norfolk, 6 clusters grapes, one variety, first premium, . 3
Rev. Joseph Eldridge, Norfolk, White Muscat of Alexandria, first premium, ... 1

Grapes under glass.

T. S. Gold, West Cornwall, best collection, ... 10
A. Veitch, gardener to James Fellowes, New Haven, second premium, ... 6

Watermelons.

Chas. N. Beecher, Woodbridge, first premium, ... 2
Andrew Holford, New Haven, second premium, ... 1
Andrew Holford, " Nutmeg Melons, first premium, ... 2

Cranberries.

B. H. Stevens, Essex, first premium, ... 3
Harmon Humiston, Hamden, second premium, ... 2

Discretionary.

Peter H. Ashton, Middletown, collection grapes, ... 3
Eli Ives, New Haven, Black Missouri " 3
Wm. S. Porter, " Isabella " 1
Geo. W. Brockett, North Haven, Isabella " 1

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Chas. Augur, Whitneyville, Concord Grapes,..... $2
C. B. Whittlesey, New Haven, Quinces,..... 1
S. Y. Beach, Seymour, " 1
Samuel Davis, Town Farm, N. H., Watermelons,..... 1
Horace Chase, Fair Haven, Citrons,..... 1

T. H. TOTTEN,
H. A. GRANT, } Committee.

NO. 64.—SPECIAL FRUIT PREMIUMS.

Chas. Dickerman, New Haven, largest and best collection of Fruit,.. Gold Medal.
P. H. Ashton, Middletown, second best collection of Fruit,..... Silver Medal.
Smith & Hanchett, Syracuse, N. Y., special premium,..... $10
John Osborn, Mt. Carmel, best collection of Preserves, first premium,..... 5
Daniel Whittlesey, New Preston, for collection of Preserved Fruit, sec. prem.. 3
Daniel Whittlesey, " for Jar Pickles, special premium,..... 1
Charles Andley, gardener to Misses Gerry, New Haven, best collection Pickles, 2
Vinus Woodin, Hamden, case of Preserved Peaches, special premium,..... 1

MISS HUDSON,
MRS. BIRGE,
O. F. WINCHESTER, } Committee.
D. S. DEWEY,
A. W. BIRGE,

NO. 65.—FLOWERS.

Miss Cornelia Robinson, New Haven, best Mantel Bouquet,..... $5
Mrs. Chas. Bradley, " " 2
John Milla, gardener to C. M. Ingersoll, N. H., best Table Bouquet, first prem. 5
Mrs. Enos Blakeslee, Plymouth, Table Bouquet, second premium,..... 3
Miss Mary G. Wells, Wethersfield, Table Bouquet, third premium,..... 2
Robert Veitch, New Haven, best pair Hand Bouquets, first premium,..... 2
Henry Fox, Hartford, 2d do. second premium,..... 2
Samuel D. Woodbridge, best bouquet of Wild Flowers, first premium,..... 3
Henry Fox, Hartford, 2d do. " " second premium,..... 2
A. Veitch, gardener to Jas. Fellowes, New Haven, best collection Cut Roses, first premium,..... 3
Robert Veitch, New Haven, best exhibition Dahlias, first premium,..... 3
James Craig, New Haven, 2d do. " " second premium,..... 2
Robert Veitch, New Haven, best exhibition of 20 greenhouse plants, first prem.. 8
Robert Veitch, " " " 12 " " sec. prem.. 5

Discretionary.

D. S. Dewey, Hartford, for Seedling rose "Col. Dewey,"..... 2

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A. Veitch, New Haven, collection of Native Flowers,..... $1
David Whittlesey, New Preston, for Basket of Native Flowers,..... 1
Samuel D. Canfield, Woodbridge, for cut Flowers,..... 1

M. C. WELD,
HENRY MANSFIELD,
JOHN F. WEBER,
} Committee.

NO. 66.—NATIVE WINE.

Wine from Grapes.

S. D. & L. B. Case, Canton, vintage of 1853 and '59, first premium,..... $8
Ashbel Landon, Lakeville, White Catawba, second premium,..... 5
Charles Bradley, New Haven, Native Grape, vint. 1858, third premium,..... 3
Geo. B. Twichell, Bethany, Currant Wine, first premium,..... 3
Jas. McCleve, Portland, " " second premium,..... 2
Geo. B. Twichell, Bethany, Blackberry Wine, third premium..... 1
Wm. Goodrich, New Haven, Old Sachem Bitters or Wigwam Tonic, dis. prem. 5

Cider Vinegar.

Wm. A. Wolcott, Lakeville, first Premium,..... 2
Stephen Wheeler, New Haven, second premium,..... 1

DAVID CLARK,
JUDSON CANFIELD,
M. HUDSON,
} Committee.

CLASS IX.

Field Crops, Farms and Reclaimed Lands.

NO. 67.—FIELD CROPS.

At the session of the Executive Committee held in Hartford, Jan. 10, 1860, the reports on Field Crops were read and awards made as follows:

Mr. David H. Sherwood of Southport, reports one fourth of an acre of onions cultivated on a loamy soil, over a hardpan, which had been under the same crop the previous year, for two years before that under carrots. There have been twenty loads of manure to the acre from barnyard and stable applied each of the three years previous; the same amount was applied to the present crop, fifty bushels being estimated as

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a load. The land was plowed once the first week in April, raked smooth, and the seed, the variety being the Red Globe, after being sunk in water to separate the poor seed which will rise to the top, was sowed at the rate of four pounds to the acre by a machine, the rows being one foot apart. The crop was hoed between the rows four times, and weeded enough to keep clean.

The seed was sown the first week in April as soon as the ground was dry enough to work. The crop was harvested the last of August and first of September, as soon as the crops became dead, and the yield was one hundred and thirty bushels, valued at fifty cents the bushel.

The expenses of the crop were as follows:

A man with team two days	$6.00	
Work of one man four days	4.00	
Work of boy eight days	6.00	
Total amonnt of labor	$16.00	
Value of crop		$65.00
Net profit of crop	$49.00	
To Mr. Sherwood was awarded the first premium of		$4.00

Mr. David H. Sherwood of Southport reports one acre and sixty-six rods of Long Orange Carrots, upon a soil mostly a light loam on a hardpan subsoil, a portion of the land inclines to clay, and is rather heavy, but is now under drained. One acre of the ground was in meadow in 1856 and 1857, and in corn in 1858. The 66 rods was in grass in 1856, in corn in 1857, and in carrots and Ruta Bagas in 1858. One acre had received no manure for some years until the winter of 1857–8, fifty sheep were then out on it a part of the time. The corn was manured with guano in the hill and ashes on the hill. The sixty-six rods had about six cords of well rotted manure from the stable in 1858. The present crop received about one hundred bushels of night soil, four cords of composted horse manure, and six cords of manure from the hog-pen, composed principally of sea-weed.

The land was plowed once the first week in May. By plowing early a crop of weeds is started which is then killed by the use of the cultivator. After the ground is raked it is marked out and the seed dropped by hand in rows eighteen inches apart, two pounds of seed are used to the acre, this gives a close set to the plants, which allows the rows to be seen sooner, when thinning only the strong plants are left, and those eight inches apart in the row. The seed is sown dry (when saving the seed only the large heads are saved,) from the 15th to the last day of May, generally the last sowing is as good as the first.

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The crop was hoed three times and twice weeded by hand. Harvested from the 5th to the 25th of November. The crop was as follows from one fourth of an acre 8720 pounds, or 218 bushels. In all I had 45.136 pounds or 1.136 bushels. I have sold 14 tons at an average price $15.-17 per ton. Total value of the crop $342.45.

Total value of manure, work and interest..... $109.00
Net profit of crop..... $233.35
To Mr. Sherwood was awarded the first premium of..... $8.00

Mr. W. J. Pettee of Lakeville, reports one quarter acre of Carrots on a clayey loam which had been under potatoes and tobacco for the last three years, the tobacco was slightly manured with housed barn-yard manure. The present crop had thirty loads of the same kind of manure. The ground was plowed over the last week in May, and sowed with Yellow Orange Carrot in drills fourteen inches apart, using three pounds of seed to the acre without any preparation. The crop was cultivated by hand, weeding and thinning twice, and twice hoed by hand, planted the first week in June and harvested the 1st week in November. The crop was one hundred and seventy bushels ascertained by weighing, and was sold at 25 cents per bushel. The labor expended was $12.50.

To Mr. Pettee was awarded the second premium of..... $3.00

NO. 68.—FARMS AND RECLAIMED LANDS.

Owing to the late day at which the premium list was issued, a majority of the entries under this head came too late for judicious examination by the judges. The Executive Committee therefore deemed it inexpedient to make any awards, and the Chairman of the Board of Judges was directed to return reports to the competitors.

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